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WORLD OUTPUT OF DAIRY PRODUCTS, THIRD QUARTER, 1950

Factory production of dairy products varied considerably by countries in the third quarter of 1950, compared with the same quarter a year ago. In most European countries, heavy rains in July and August helped to maintain milk production at a much higher level than last year, when drought conditions were widespread. Much of the increased milk output was used in manufacture. Excellent pasturage in the Netherlands was largely responsible for the gain of approximately 23 percent in milk output in the third quarter. In Denmark, favorable weather, together with a slight increase in cow numbers, raised milk production 11 percent over comparable 1949. A somewhat larger number of milk cows in Western Germany, as well as good pasture growth, resulted in higher milk output in the July-September quarter of 1950. In Switzerland, beneficial weather and abundant feed stimulated milk production. Deliveries to plants in the third quarter were up 8 percent over the corresponding period of 1949, and were the highest since 1947. Weather conditions in the United Kingdom favored the growth of grass and pastures, cows were maintained in very good health, and milk production for the quarter increased 11 percent over the earlier year.

Australian milk output in the period under review was ahead of comparable 1949, in spite of somewhat adverse conditions early in the quarter. In New Zealand, temperatures generally were below normal and rainfall was very deficient over a wide area of important dairying country. Butterfat production, which had shown some increase in July and August, dropped to last year's level in September, and output for the quarter as a whole was only slightly above the corresponding quarter of 1949.

In the United States, a slight gain in total milk output reflected the favorable pasture and feed conditions that generally prevailed in this period.

Butter production in factories showed a substantial overall increase in the third quarter of this year when compared with third quarter 1949. Danish butter production, 15 percent above the third quarter of last year, reflected the increased milk production in this period. Production in the Netherlands continued at a high level, and in the July-September quarter rose 13 percent over the corresponding three months of 1949. Factory butter production in Western Germany was up approximately 5 percent, due to larger supplies of milk going into

creameries in this period. Heavier milk production in Switzerland permitted larger milk deliveries to plants for manufacturing purposes, and the quantity of butter produced in factories in the same period was 24 percent above that of a year ago. In Sweden, higher milk production resulted in a rise of approximately 20 percent in the output of butter, much of which was exported. In Ireland, also, milk deliveries to butter factories were above those of the previous year, and butter output in the quarter was higher by 11 percent.

Production of butter in Australia in the July-September quarter of 1950 was more than 72 million pounds, the largest output for that period since the corresponding three months of 1942. Butter graded-for-export in New Zealand in the third quarter of 1950 was 92 percent of comparable 1949.

Canadian butter output continued to decline, reflecting both the downward trend in milk production and the shift in the pattern of milk utilization from butter and cheese to other uses. In the United States, despite sharp drops in butter output in August and September, production for the entire quarter was down only one percent from a year ago.

Cheese output in the July-September period of 1950 declined slightly below comparable 1949. Sweden continued the intentional cutback in cheese production in this quarter, as evidenced in a drop to 66 percent of last year's output. Danish cheese production was 97 percent of the corresponding quarter of 1949, again reflecting the smaller quantities of manufacturing milk being directed into cheese production. In Switzerland, increased cheese production in August and September reversed the trend of the past several months and raised output for the quarter as a whole to 8 percent over the 1949 level. Cheese factories in the United Kingdom were the main recipients of milk for manufacturing again in this quarter.

In Australia, September cheese production was a record while that for the entire quarter showed a slight gain over the preceding year. New Zealand reported a four percent increase in cheese graded-for-export.

With less milk going toward cheese production in Canada, output for the July-September period was only 84 percent of the same three months of 1949. In the United States, cheese production fell somewhat below that of a year ago, the decline occurring in the output of American cheese.

Canned milk production statistics are available at this time for but 4 important producing countries. Production in the Netherlands increased 75 percent in the third quarter, much of which went into export channels. Output in the United Kingdom rose 49 percent in the period under review, partially reflecting the larger quantity of milk available for manufacturing purposes. In both Canada and the United States, increased evaporated milk output raised total canned milk production above the levels of comparable 1949.

Of the 5 dried milk producing countries reporting, only the Netherlands and the United Kingdom increased production in the third quarter. In Sweden, output was again reduced in this period, due to the waning demand. Total dried milk

production in both Canada and the United States declined below last year's levels, accounted for in the sharply reduced output of non-fat dry milk solids.

Current Conditions Abroad.--

Sydney:- In Australia, with feed plentiful and cattle in good condition, prospects for high output in the September-December quarter have been excellent.

Wellington:- Good rains with mild temperatures have been experienced over a wide area of New Zealand, and pasture growth is now responding well.

Buenos Aires:- Dairy conditions improved gradually in Argentina during the July-September quarter and by late November were classed as very good. Intermittent rains late in the winter followed by abundant rainfall in the spring resulted in very good pastures in most of September, October and November.

Copenhagen:- The sale of butter on the Danish home market is now free. Butter rationing started on November 3, 1940.

Frankfurt:- The outlook for milk production in Western Germany is considered promising. The roughage situation continues to be excellent, due to very good yields of fodder roots and beet tops.

Ottawa:- In Canada, winter feed conditions are satisfactory. Fodder supplies are reported to be generally adequate, and grain supplies plentiful for the country as a whole.--By Regina M. Murray, based in part upon U.S. Foreign Service reports from countries referred to.

DAIRY PRODUCTS: Factory output in principal producing and exporting countries,
third quarter (calendar) 1950, with comparisons

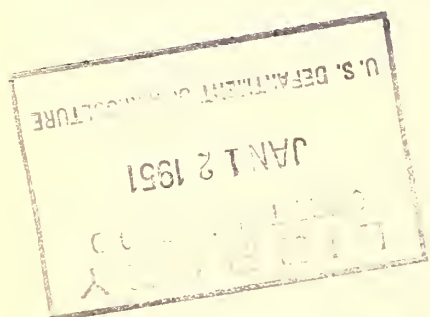
Country and product	Average 1934-36	Total 1949	1949			1950			3rd Quarter 1950/49
			3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	Percent	
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds		
Butter									
Canada.....	248,119:	278,657:	103,430:	52,226:1/	30,693:1/	88,181:	98,397:	95	
United States.....	1,673,328:1/	1,412,101:1/	379,739:1/	292,518:1/	321,655:1/	451,345:	374,755:	99	
Belgium.....	46,179:2/	57,170:	18,008:	12,887:	12,751:	116,403:	111,774:	115	
Denmark.....	400,660:	344,358:	97,003:	82,452:	79,287:	161,363:	168,198:	105	
France.....1/4/	444,888:	233,915:	67,514:	55,494:	109,364:1/	28,120:	36,155:	111	
Germany, Western.....	89,400:	522,828:1/	160,447:	117,670:	35,150:1/	71,092:	66,612:	113	
Ireland.....	201,000:	184,878:	58,903:	39,143:	4,157:	68,865:	73,634:	120	
Netherlands.....	24,930:	23,660:	6,135:	3,157:	50,081:1/	11,166:	13,806:	124	
Norway.....	151,309:	216,139:	61,347:	8,731:	7,840:	19,085:	7,392:	204	
Sweden.....	57,760:1/	35,007:1/	11,173:	2,888:	22,046:5/	13,486:	5,952:	102	
Switzerland 3/.....	44,200:	23,476:	3,629:	11,843:	17,956:	62,273:	72,082:	98	
United Kingdom.....	65,742:5/	66,000:	9,029:	138,728:	105,816:	27,311:	55,825:	92	
Union of South Africa.....	27,725:	46,466:	70,472:	163,699:	107,318:	18,575:	72,082:	102	
Australia.....6/	437,032:	378,011:	72,161:	149,887:	97,099:	18,575:	55,825:	92	
New Zealand - total.....1/	366,049:1/	393,756:1/	60,531:	119,887:	97,099:	18,575:	55,825:	92	
Export gradings.....8/	314,753:	350,523:	60,531:	119,887:	97,099:	18,575:	55,825:	92	
Cheese									
Canada.....	114,699:	113,787:	49,621:	21,264:	4,791:	33,970:	41,677:	84	
United States.....	643,234:1/	1,199,413:1/	325,046:1/	228,685:1/	248,250:1/	387,260:	321,325:	99	
Denmark.....	68,820:	135,805:	38,581:	26,456:	26,896:	35,715:	37,258:	97	
France.....1/4/	363,098:	399,039:	107,104:	88,927:	-:	-:	-:	-	
Italy 9/.....	523,518:5/	485,000:	-:	-:	-:	-:	-:	-	
Netherlands 10/.....	266,549:	282,400:	96,572:	53,239:1/	32,403:1/	77,356:	28,439:	66	
Norway.....	39,067:	46,100:	12,648:	8,016:	12,841:	20,109:	41,190:	108	
Sweden.....	71,269:	144,474:	43,378:	29,420:	15,282:	35,600:	35,195:	210	
Switzerland.....	111,729:1/	108,918:1/	38,186:	17,894:	28,538:1/	46,657:	42,990:	-	
United Kingdom 10/.....	109,000:	74,324:	17,669:	9,453:1/	44,092:5/	45,635:5/	42,990:	-	
Argentina.....	67,873:5/	165,000:	-:	4,044:	5,085:	4,209:	-:	-	
Union of South Africa.....	10,195:	17,096:	3,736:	42,605:	23,753:	12,227:	21,934:	101	
Australia.....6/	49,111:	101,023:	21,819:	42,605:	73,753:	25,715:	36,998:	105	
New Zealand - total.....1/	201,272:1/	233,016:1/	35,325:1/	101,270:1/	73,753:	25,715:	36,998:	105	
Export gradings.....8/	194,175:	220,286:	20,422:	94,535:	77,419:	32,601:	21,320:	104	

DAIRY PRODUCTS: Factory output in principal producing and exporting countries, third quarter (calendar) 1950, with comparisons

Country and product	Average 1934-38	Total 1949	1949			1950			3rd Quarter 1950/49
			3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter		
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	Percent	
Canned milk									
Canada ^{11/}	92,377:	269,277:	21,252:	50,041:	37,633:	98,022:	101,539:	125	
United States ^{11/}	2,469,535:1/	3,905,743:1/	1,125,425:1/	660,038:	819,750:	1,302,400:	1,143,985:	102	
Cuba.....	32,564:	44,982:	18,312:	13,860:	7,644:	9,366:	-	-	
Denmark.....	40,785:	21,835:	14,980:	25,336:	-	-	-	-	
France.....	28,953:	-	-	-	-	-	-	-	
Netherlands.....	304,896:	260,894:	66,248:	62,884:	73,058:1/	105,016:	116,156:	175	
Switzerland.....	14,198:	-	-	-	-	-	-	-	
United Kingdom.....	378,560:	221,401:	25,267:	40,051:	68,992:1/	172,390:	37,721:	149	
Australia.....	41,894:1/	134,234:1/	25,213:	56,751:	37,077:	22,377:	-	-	
New Zealand.....	11,273:	-	-	-	-	-	-	-	
Dried milk ^{13/}									
Canada.....	23,488:1/	75,942:1/	23,276:1/	13,745:	10,724:1/	24,463:	20,973:	90	
United States.....	203,555:1/	1,059,203:1/	267,075:1/	191,374:	244,101:	364,060:	230,120:	86	
Belgium.....	5,500:	8,059:	2,344:	815:	1,394:	-	-	-	
Denmark.....	2,205:	20,340:	4,641:	9,683:	-	-	-	-	
France.....	7,685:	-	-	-	-	-	-	-	
Netherlands.....	56,438:	62,472:	17,483:	7,154:	14,926:1/	46,930:	25,880:	148	
Sweden.....	1,351:	33,024:	10,854:	6,020:	4,244:1/	4,976:	4,630:	43	
Switzerland.....	2,381:	-	-	-	-	-	-	-	
United Kingdom.....	33,600:	60,479:	8,870:	7,975:	19,174:1/	42,739:	17,113:	193	
Australia.....	16,971:14/15/	98,318:14/	19,265:14/	38,565:14/	26,739:14/	12,706:	-	-	
New Zealand.....	17,429:	-	-	-	-	-	-	-	

^{1/} Revised. ^{2/} Total production is estimated at 143,299,000 pounds in 1949. ^{3/} Total production. ^{4/} Less than a 5-year average. ^{5/} Estimated. ^{6/} Production year beginning July 1. ^{7/} Production year beginning April 1. ^{8/} Marketing year beginning August 1. ^{9/} Total cheese, and includes cheese made from the milk of sheep and goats. ^{10/} Includes farm cheese. ^{11/} Both bulk and case goods. ^{12/} For 1937 only. ^{13/} Total dried-whole and dried-skim milk for human consumption. ^{14/} Includes infants' foods, health beverages, etc. ^{15/} Production of dried-whole and dried-skim milk was 67,109,000 pounds in 1949. ^{16/} For 1938 only.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, U.S. Foreign Service reports, and other information.-December 18, 1950.





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OFFICE OF FOREIGN AGRICULTURAL RELATIONS
UNITED STATES DEPARTMENT OF AGRICULTURE
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INTERNATIONAL TRADE IN MAJOR DAIRY PRODUCTS AVERAGE PREWAR ANNUAL 1948 AND 1949

Substantially more dairy products moved in international trade in 1949 than in any year since the war as larger supplies became available from rehabilitated European countries that were important in dairy trade before World War II. In addition large exports were continued particularly from New Zealand, Australia, Canada and the United States. An increase in trade in 1949 over 1948 is accounted for by the greater movement of cheese, dried milk, butter and canned milk in order of importance. Cheese exports in 1949 were one-third greater than in prewar while trade in canned milk was more than twice the 1934-38 level. Dried milk exports are greatly in excess of prewar trade. Butter is the only major dairy product traded in smaller quantities than before the war but butter exports are gaining annually and were estimated at 75 percent of prewar in 1949. The milk equivalent of the major dairy products exported during 1949 from 14 important countries which represents the bulk of dairy trade was about 10 percent less than in prewar. ^{1/} The product weight of dairy products traded during 1949 was larger than in prewar, however, as there has been a relative increase in the manufacture and trade of dried skim milk and other dairy products that use a greater portion of milk solids than utilized by butter.

DAIRY PRODUCTS: Exports of Butter, Cheese, Canned and Dried Milk in Product Weight and Whole Milk Equivalent from 14 Principal Countries, Average 1934-38 and Annual 1948 and 1949 ^{1/}

	Average 1934-38		1948		1949	
	: Product	: Whole Milk	: Product	: Whole Milk	: Product	: Whole Milk
	: weight	: Equivalent	: weight	: Equivalent	: weight	: Equivalent
	: Million	: Million	: Million	: Million	: Million	: Million
	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds
Butter	: 1,245	: 27,185	: 813	: 17,484	: 930	: 20,100
Cheese	: 567	: 5,167	: 526	: 4,777	: 738	: 6,559
Canned Milk	: 313	: 688	: 858	: 1,888	: 835	: 1,949
Dried Whole Milk	: 50	: 426	: 157	: 1,308	: 174	: 1,494
Dried Skim Milk	: 21	: xxx	: 221	: xxx	: 327	: xxx
Aggregate Weights	: 2,196	: 33,466	: 2,575	: 25,457	: 3,054	: 30,102

^{1/} Countries were Canada, United States, Belgium, Ireland, France, Italy, Netherlands, Sweden, Switzerland, Argentina, Australia, New Zealand and countries now included under the U.S.S.R.

The trade in manufactured dairy products has been increasing as the significant gains in production of milk in major exporting countries permit larger quantities to be utilized for products to be exported. Likewise the greatest recovery in the production of manufactured dairy products has been principally in these few major producing countries, who export a large portion of their production of dairy products. It may also be noted that the exports of dairy products of the ~~few~~ important countries is a very significant portion of the value of their total trade.

Since World War II, trade of dairy products has been carried on almost completely through bilateral agreements or under foreign assistance programs. Practically all butter and cheese exports other than quantities originating in the United States have been arranged for through bilateral agreements. Such trading will be important at least until 1955 as the United Kingdom, the largest importer of dairy products, has secured the greatest portion of its needs under long term contracts effective to September of that year. The major exports of dried milk and cheese from North America have been largely promoted through various relief programs. As the need for assistance in obtaining dairy products financed by these programs has become less urgent, the magnitude of the exports from the United States has likewise declined. The sharp decrease in cheese exports from the United States in the last couple years is a good example. Exports of canned milk have been arranged almost entirely through commercial channels.

The foreign trading in dairy products is returning somewhat to prewar patterns as European exporting and importing countries have been rehabilitated to near prewar capacities and war emergency suppliers are declining in importance. There has however temporarily been some shift away from the importance of butter exports to other products. In addition no exports of butter have been reported from the countries now part of the U.S.S.R. which were important prewar suppliers. Europe continues to be the largest market for dairy products with the United Kingdom, Germany, Belgium, France and Greece the principal importing countries. The imports of the United Kingdom have been increasing due to some increase in purchasing power and liberalization of import controls. Under a more liberal trade condition Western Germany imported about three times more dairy products in 1949 than in 1948. A much larger portion is now from neighboring countries replacing United States shipments.

The expansion of markets for dairy products in Asia and South America has been only slight as yet, but considerable effort is being made by several exporting countries to develop these outlets. The desire for milk and dairy products is becoming more wide spread as healthful supplies are made available through imports and as local governments gain enthusiasm in developing more healthful and desirable food supplies. Present increases in trade should continue as considerable effort is being expended by exporting countries to secure larger foreign markets and much of the world is currently involved in a trade liberalization program. Technical development in preparation of products will offer additional impetus to exports.

Butter

Butter exports have been increasing annually since 1945 and are estimated at about 930 million pounds for 1949 which is only 75 percent of the prewar level. The 1950 butter exports will be much nearer prewar levels. The lower export of butter in postwar years has been due to a smaller production of butter in European exporting countries due to a decrease in the production of milk and also because a larger portion of the milk supply has been channeled to other uses. The major butter exporters in order of importance in 1949, New Zealand, Denmark, Australia and the Netherlands, have continued to make the largest increases in postwar expansion of butter trade. The Baltic countries, which were significant exporters in prewar, have not been selling butter to their prewar buyers in the last several years and North America has not been an important source of butter since 1944 when emergency supplies were needed. Several major exporters of butter rationed their respective domestic consumers as late as in 1949 and 1950, so that larger supplies would be available for foreign sales to improve their balance of trade but more recently these domestic restrictions have been discontinued.

New Zealand has been the major exporter of butter since the early years of World War II when supplies from Denmark were curtailed by the war. Butter exports from New Zealand in 1949 were considerably above their average prewar foreign sales and even slightly above the average 1934-38 exports of Denmark, but still not in excess of the largest annual exports by the Danes. In 1949 New Zealand exported 84 percent of its total production. Butter graded-for-export in New Zealand is sold to the United Kingdom under a contract effective until 1955 that requires 94 percent of their exportable surplus with a maximum sale to other markets of 31 million pounds. The current price of butter under the contract, 31.5 cents per pound, is subject to negotiation annually but cannot be raised or lowered by more than 7½ percent each year. Sales outside of the contract are at higher prices.

Danish exports of butter increased gradually up to 1949 from 1943 when they were less than one-fourth of prewar. In the last two years the increases have been sharper as indigenous production has greatly exceeded the domestic demand for milk and dairy products. Denmark exported about 88 percent of its production in 1949, which is 2 percent more than last year and 6 percent more than prewar. The United Kingdom received about 70 percent of Danish exports in 1949 and near 53 percent in 1948 which are both less than the 75 percent received in prewar. The present United Kingdom contract which provides for 75 percent of Denmark's exports up to 258 million pounds was negotiated in 1949 and will be effective until September 1955. The price, which is subject to review annually, is currently being negotiated but the two countries are as yet unable to arrive at the price to be effective in 1950-51. The 1949-50 f.o.b. price was 34 cents per pound. Germany is purchasing larger quantities of Danish butter in 1950 and will easily replace Belgium as second in importance, since the Netherlands has acquired practically the total Belgium market.

Australian exports of butter decreased in 1949 for the first time in two years. The decline was due to an increase in consumption and storage holding since

the production of butter last year exceeded the output of 1948. The utilization pattern of milk in Australia is different than in postwar years as considerably larger quantities have gone into fluid consumption and cheese at the sacrifice of butter output, therefore butter exports will probably be a long time returning to prewar levels. Practically all their exports are destined for the United Kingdom under a long term contract effective until 1955 and similar to the New Zealand-United Kingdom contract. The decision on the 1950-51 price has been pending for sometime, but whatever the outcome, the Australian government has guaranteed dairymen a price covering the cost of their production. The price negotiated for the July 1949-June 1950 fiscal year was about 31 cents per pound f.o.b.

The Netherlands exported twice as much butter in 1949 as compared to 1948 and exceeded their prewar position by about 7 percent. The largest quantities were sold to the United Kingdom, Belgium and France in 1949, while Belgium was much the largest importer during 1948. Belgium is again purchasing large quantities from Holland in 1950 due to closer cooperation within the Benelux Union. The Dutch are also selling larger quantities of butter to Germany in 1950 which was an important prewar market. Sales to the United Kingdom have been delayed, however, since the two governments could not agree upon a price for 1950-51 butter exports during the June negotiations but since then the two countries have agreed upon a minimum of 33 million pounds for 1950.

Cheese

Cheese trade was quite well sustained during the war years due largely to substantial increases in exports from the United States, Canada and New Zealand. In the postwar years relatively more emphasis has been on fluid milk and cheese at the sacrifice of butter. Exports in 1949 were approximately 750 million pounds which exceeds 1948 exports by 40 percent and is about 32 percent above prewar. The larger foreign sales of cheese last year are a recovery from the drop in 1948 which was largely the result of the sharp decline in exports that year from the United States and somewhat smaller shipments from New Zealand even though there were increases in European countries. The United States exports in 1949 were largely under E.C.A. purchase but the movement of cheese under this program has almost ceased in 1950 and United States exports of cheese have likewise been declining. The shortage of dollar exchange in European markets and high prices of United States cheese makes it difficult to sell on the international market.

New Zealand, the largest exporter of cheese, ships practically all its export-gradings to the United Kingdom under contract similar to the New Zealand-United Kingdom butter contract which is effective until 1955. The 1950-51 price will be approximately 17.7 cents per pound f.o.b., the same as last year. A larger percentage of New Zealand's exportable surplus may, however, be sold outside of the United Kingdom contract in the coming year. New Zealand exported 90 percent of its total cheese products in 1949, 83 percent in 1948 and 92 percent in prewar years.

The Netherlands has made rapid progress in recovering its large prewar foreign market and is again the second largest exporter of cheese in the world. The Dutch exported 50 percent of their production in 1949 and they believe cheese will, in the long run, experience a more profitable foreign market than their other dairy products. The largest purchases of cheese from the Netherlands in 1948 were made by Belgium and the United Kingdom while France and Germany were also important buyers in the first of 1950. Western Germany has been taking increasing quantities while sales to the United Kingdom and France have fallen off.

The United States was the third most important exporter of cheese in 1949 as it was the first time in 5 years that its cheese exports didn't decline significantly. The United Kingdom received 90 percent of United States foreign shipments of cheese which were mainly American Cheddar types. Since December 1949 however, exports have decreased materially and there has been practically no movement outside of North and South America except for conclusion of current arrangements for 50 million pounds of cheddar cheese to the United Kingdom which will be delivered in the next 3 months. The United States cheese exports, excluding the present United States-United Kingdom arrangements, are nearer the prewar pattern as the United States has not otherwise been an important supplier of cheese in 1950.

Denmark has moved up to fourth in importance of cheese exports in 1949 having sold 42 percent more than in 1948 and more than twice as much as in prewar. The Danes have been expanding their cheese making capacity while at the same time domestic consumption decreased 20 percent in 1949 permitting much larger quantities for export. Denmark exported almost 50 percent of its production in 1949. Germany became an important buyer last year taking 52 percent of the Danish foreign sales although the United Kingdom and Sweden were also fairly important. The Belgian market which was good in 1948 has decreased purchases from Denmark since last year. The export price is between 26 to 35 cents per pound depending on the kind of cheese and the market. The prices received from comparable cheese sold at domestic markets have been slightly less. The domestic prices for cheese were released from controls in June.

Australia, the next most important exporter of cheese, has doubled its foreign sales since prewar. Their foreign shipments are principally to the United Kingdom under a contract similar to that of the New Zealand-United Kingdom agreements. The Australian contract price for 1949-50 was 17.5 cents per pound f.o.b. Approximately 47 percent of the Australian cheese production was exported in 1949.

Other countries important as exporters of cheese are Switzerland, Italy, France, Argentina, Sweden and Ireland. Switzerland and Italy are having difficulty in recovering their prewar markets for special types of cheese and are exporting smaller quantities than in prewar.

The Swiss have closely regulated the marketing of milk to make certain there will be large quantities of cheese for export and foreign shipments continue to increase. High prices and competition from countries with relatively devalued

currencies have made competition in foreign markets stiff. France, the United States, Belgium and Italy are currently the principal Swiss markets. Exports of hard wheel cheese have doubled in the first of 1950 over 1949, with the largest quantities being sold in Europe. The United States buys considerable portions of Swiss processed cheese.

Italian cheese exporters are currently having less difficulty than in 1949 since their export prices have been lower and market quantitative restrictions by traditional European importers have been eased. There is however considerably more competition in the sales of Italian type cheese from other countries than in prewar. Argentina and the United States expanded their production of this type cheese considerably during the war.

Argentina freely permits the exportation of cheese and has devaluated its currency to encourage a more favorable trade ratio. But their trade in butter and powdered milk is under government control and canned milk exports are not permitted. The exports of dairy products will increase from Argentina as the domestic supply improves.

Canada, which was of relative importance in prewar years, has also had a cheese contract with the United Kingdom for the past several years. The 1949 contract specified 50 million pounds at 30 cents a pound f.o.b. the factory, which was filled by August last year. The 1950 contract was for a minimum of 70 million pounds and a maximum of 84.7 million at 25 cents f.a.s. The Canadians are experiencing difficulty in supplying about 60 million pounds this year even though the government is requisitioning cheese.

Canned milk

The exports of canned milk 1/ are estimated at approximately 885 million pounds during 1949 which is 6 percent above 1948 and about 45 percent above prewar. The United States increase in exports from 32 million pounds in 1938 to 328 million in 1949 is the main reason world trade in canned milk so greatly exceeds prewar levels. Notwithstanding this increase United States exports have been declining from early postwar levels which were approximately equal to the level of total world exports for 1949. United States exports of canned milk in 1949 were principally to the Philippines, Greece, Belgium, Cuba, British Malaya and numerous other countries. These exports have been principally evaporated milk.

The Netherlands, the principal prewar exporter of canned milk, was second largest in 1949 while accounting for one-fourth of the world's exports last year. Dutch foreign shipments of canned milk more than doubled last year over 1948 and should continue to increase as they are only about two-thirds of the prewar level. The United Kingdom and Indonesia received approximately one-half the 1949 exports with minor quantities going to markets in Asia and Africa. Approximately 90 percent of the Dutch production of canned milk in 1949 was exported. Denmark, Australia, Canada, Ireland, New Zealand, France and Switzerland are the remaining important exporters of canned milk. Denmark exported almost its whole production

1/ Includes both case and bulk goods.

of canned and dried milk last year. A large part of the foreign sales of canned milk from these countries is taken by the United Kingdom, Germany and also of considerable importance are several Asiatic markets of which Malaya, Indonesia and Hong Kong are particularly important. French exports are primarily to its African possessions.

Dried Milk

The exports of dried milk 1/ during 1949 are estimated at approximately 502 million pounds which is about 30 percent above 1948 and many times higher than the prewar level, but considerably below several postwar years. Dried skim milk accounted for approximately two-thirds of the total dried milk exports in 1949, as movement from the United States amounted to 214 million pounds with the Netherlands, Canada, Australia and New Zealand exporting smaller quantities to foreign markets. These same countries were also leaders in the foreign sales of dried whole milk, though exports were from a greater number of countries, including Denmark, Ireland, Sweden, Belgium, Norway and Argentina. A large portion of the exports from North America have been for relief and rehabilitation through the Children's Fund.

The imports of powdered milk were made by a large number of countries located all over the world. Europe was the largest market for dried whole and dried skim milk, and the United Kingdom, Germany, Belgium, Greece, Czechoslovakia, Italy, Austria were principal importers. The European countries received particularly large quantities of dry skim milk while exports of dry whole milk were relatively more important for countries in South America, Asia and Africa where powdered milk was a more significant portion of the total sanitary milk supply. Important importers of dried milk outside of Europe were British Malaya, Hong Kong, Philippines, Trinidad, Venezuela and others.

1/ Includes both dried whole and dried skim milk.

BUTTER: International Trade, Average 1934-38,
Annual 1948 and 1949, Preliminary.

Country	Average 1934-38		1948		1949	
	Exports	Imports	Exports	Imports	Exports	Imports
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
NORTH AMERICA						
Canada	1/ 5,640	1/ 110	882	14,395	1,069	1,123
Mexico	2/ --	179	--	165	--	3/ --
Panama Canal Zone	1,152	9,307	5,768	228	4,174	271
Cuba	4/ 608	4/ 24	--	779	--	672
SOUTH AMERICA						
Argentina	18,294	53	11/ 26,455	--	11/ 220	--
Peru	2/ --	311	--	870	--	11/ 90
Venezuela	--	798	--	1,543	--	2,191
EUROPE						
Austria	5,979	73	2/ 13	--	--	7
Belgium and Luxembourg	68	9,930	46	78,931	90	56,427
Czechoslovakia	754	1,918	--	7,431	5/ 5/	--
Denmark	328,642	37	231,040	--	302,903	--
Estonia	26,378	--	6/ 6/	--	6/ 6/	--
Finland	7/ 24,467	7/ 13	--	17,903	23	3,060
France	8,932	3,640	6,735	10,146	6,989	57,924
Germany	4	170,766	5/ 5/	--	5/ 5/	--
Greece	2/ --	860	--	333	--	5/ --
Hungary	9,118	--	5/ 5/	--	5/ 5/	--
Ireland	51,843	448	239	--	1,381	--
Italy	1,067	2,152	5/ --	4,243	5/ --	12,452
Latvia	40,774	--	6/ 6/	--	6/ 6/	--
Lithuania	30,390	--	6/ 6/	--	6/ 6/	--
Netherlands	109,586	355	53,131	29	117,807	44
Norway	725	2	2,547	2	1,374	--
Poland & Danzig	18,664	2	5/ 5/	--	5/ 5/	--
Sweden	50,547	140	2	7	3,565	7
Switzerland	7	2,033	1,532	19,635	55	24,083
United Kingdom	1,367	1,074	727	610,594	--	713,332
USSR (Eur. & Asia)	46,486	401	5/ 5/	--	5/ 5/	--
OCEANIA						
Australia	216,000	2	179,000	--	150,000	--
New Zealand	309,000	2	304,000	--	331,000	--
OTHERS						
British Malaya	8/ 571	8/ 4,078	--	11/ 2,300	--	11/ 2,200
India	8/ 4,142	8/ 6,175	5/ --	10/ 565	5/ --	5/ --
Indonesia	--	8/ 12,352	--	11/ 300	--	11/ 800
Palestine	--	4,826	--	--	--	--
Philippine Isp.	--	1,566	--	1,599	--	1,256

See footnotes at end of last table

CHEESE: International Trade, Average 1934-38
Annual 1948 and 1949, Preliminary

Country	Average 1934-38		1948		1949	
	Exports	Imports	Exports	Imports	Exports	Imports
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
NORTH AMERICA						
Canada	73,744:	1,251:	39,827:	863:	52,695:	2,360:
Mexico	15:	895:	24:	646:3/	--:3/	--:
United States	1,260:	54,279:	95,592:	23,597:	98,021:	32,014:
Cuba	13:	428:	--:	461:	9:	719:
SOUTH AMERICA						
Argentina	3,406:	110:11/	35,000:	--:11/	22,000:	--:
EUROPE						
Austria	6,720:	1,818:	1:	404:	2:	3,026:
Belgium and Luxembourg	344:	50,563:	1,559:	65,893:	2,097:	63,510:
Bulgaria	3,554:	--:5/	--:5/	--:5/	--:5/	--:
Czechoslovakia	1,909:	2,706:	--:	455:5/	--:5/	--:
Denmark	18,067:	33:	27,824:	35:	66,772:	28:
Estonia	324:	2:6/	--:6/	--:6/	--:6/	--:
Finland	11,651:	31:	166:	2:	9,065:	--:
France	25,039:	30,867:	19,546:	4,277:	36,358:	20,311:
Germany	711:	70,134:5/	--:5/	--:5/	--:5/	--:
Greece	621:	800:	--:	3,956:	--:5/	--:
Hungary	862:	15:5/	--:5/	--:5/	--:5/	--:
Iceland	187:	--:	17:	--:	--:5/	--:
Ireland	1,509:	60:	2,151:	--:	2,888:	75:
Italy	53,224:	9,672:	15,866:	6,802:	29,015:	15,267:
Latvia	132:	--:6/	--:6/	--:6/	--:6/	--:
Lithuania	1,318:	2:6/	--:6/	--:6/	--:6/	--:
Netherlands	132,358:	934:	50,106:	1,091:	136,727:	503:
Norway	4,111:	338:	428:	474:	1,125:	655:
Poland & Danzig	1,360:	317:5/	--:5/	--:5/	--:5/	--:
Portugal	143:	386:5/	--:5/	--:5/	--:5/	--:
Rumania	139:	90:5/	--:5/	--:5/	--:5/	--:
Spain	15/ 117:15/	2,502:5/	--:	9:5/	--:5/	--:
Sweden	625:	2,473:	154:	5,743:	6,232:	7,778:
Switzerland	41,678:	3,924:	16,654:	3,134:	27,734:	2,690:
United Kingdom	2,987:	319,028:	--:	352,496:	--:	477,528:
USSR. (Eur. & Asia)	84:	816:5/	--:5/	--:5/	--:5/	--:
OCEANIA						
Australia	21,750:	104:	52,438:	185:	484,849:	74:
New Zealand	194,000:	2:	169,396:	--:	208,843:	--:
OTHERS						
Algeria	82:	10,833:	--:1/	85,000:	--:1/	15,000:
Egypt	13/14/ 82:13/14/	7,273:3/	--:11/	1,700:	--:11/	4,700:
India	4:	1,204:5/	--:11/	400:5/	--:11/	1,200:
Syria & Lebanon	553:	917:	68:	2,221:5/	--:5/	--:

See footnotes at end of last table

CANNED MILK: International Trade, Average 1934-38,
Annual 1948 and 1949, Preliminary

Country	Average 1934-38		1948		1949	
	Exports	Imports	Exports	Imports	Exports	Imports
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
NORTH AMERICA						
Canada	22,958:	22:	53,511:	3:	36,500:	6:
Guatemala	5/ --	5/ --	--	231:	--	409:
Mexico	--	18/ 614:	--	11/ 5,000:	--	11/ 4,000:
Panama	--	4,327:	--	11/ 4,500:	--	11/ 3,500:
Panama Canal Zone	--	2,543:	--	11/ 6,300:	--	11/ 5,500:
United States	14/ 32,314:	14/ 739:	426,637:	20:	327,859:	29:
Cuba	--	3,941:	8:	36,829:	--	32,937:
Netherlands Antilles	--	3,059:	--	5,200:	--	5,000:
EUROPE						
Austria	5/ --	5/ --	--	175:	8:	396:
Belgium	2,203:	841:	--	73,038:	342:	53,790:
Czechoslovakia	--	19/ 307:	--	1,733:	5/ --	5/ --
Denmark	40,438:	--	60,506:	--	85,814:	--
Finland	5/ --	5/ --	--	20/ 1,167:	20/ 288:	20/ 724:
France	11,277:	2,955:	19,493:	10,082:	24,048:	10,983:
Greece	--	4,309:	--	59,572:	--	66,725:
Ireland	12,831:	60:	19,350:	--	27,305:	--
Italy	3,101:	344:	43:	39,072:	--	9,702:
Netherlands	342,700:	50:	106,553:	--	233,224:	--
Norway	4,666:	97:	211:	3:	131:	--
Poland & Danzig	20:	50:	5/ --	5/ --	5/ --	5/ --
Spain	18/ 26:	18/ 28:	--	--	--	--
Sweden	19/ 115:	19/ 18:	--	8,516:	--	2,661:
Switzerland	12,986:	7:	7,931:	3,745:	7,629:	190:
United Kingdom	19/ 32,930:	19/ 199,204:	--	58,799:	--	84,237:
OCEANIA						
Australia	15,392:	4:	67,330:	2:	65,618:	2:
New Zealand	6,156:	--	23,673:	--	24,101:	--
OTHERS						
British Malaya	8,963:	73,682:	--	11/ 70,000:	--	11/ 70,000:
Hong Kong	5/ --	5/ --	--	11/ 10,000:	--	21,265:
India	--	17/ 8,620:	--	12,362:	--	8,545:
Indonesia	--	32,390:	--	31,323:	--	55,830:
Philippine	--	40,643:	--	115,215:	--	11/ 115,000:

See footnotes at end of last table

DRIED MILK:^{16/} International Trade, Average 1934-38
Annual 1948 and 1949, Preliminary

Country	Average 1934-38		1948		1949	
	Exports	Imports	Exports	Imports	Exports	Imports
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
NORTH AMERICA						
Canada	4,865:	419:	36,750:	2,357:	35,455:	1:
Mexico	--	466:	--	12,154:	--	8,856:
United States	4,805:	6,019:	259,689:	3,099:	295,059:	5,254:
Cuba	^{5/} --	^{5/} --	633:	2,598:	4:	2,260:
SOUTH AMERICA						
Argentina	^{5/} --	^{5/} --	4,491:	--	699:	--
Venezuela	^{5/} --	^{5/} --	--	28,219:	--	^{11/} 40,000:
EUROPE						
Austria	^{5/} --	^{5/} --	4:	260:	--	1,249:
Belgium	--	5,669:	--	14,493:	1,510:	10,661:
Bulgaria	^{5/} --	^{5/} --	--	^{11/} 10,000:	^{5/} --	--
Czechoslovakia	--	154:	--	2,695:	--	^{11/} 6,000:
Denmark	594:	--	5,193:	163:	16,933:	--
France	--	2,168:	1,312:	8,915:	1,991:	25,115:
Germany (Western)	^{5/} --	^{5/} --	--	^{11/} 50,000:	--	^{1/} 105,000:
Greece	--	209:	--	24,541:	--	25,818:
Ireland	626:	213:	2,375:	336:	3,234:	366:
Italy	25:	2:	--	7,000:	--	23,201:
Netherlands	37,151:	122:	6,969:	17,937:	49,149:	860:
Norway	10:	90:	2:	22:	38:	56:
Spain	14:	374:	--	3,536:	^{5/} --	^{5/} --
Sweden	--	382:	6,876:	--	11,499:	--
Switzerland	3,036:	7:	--	1,500:	--	35,000:
United Kingdom	--	30,879:	975:	36,425:	--	78,197:
OCEANIA						
Australia	3,324:	239:	18,274:	69:	33,015:	123:
New Zealand	16,111:	--	35,776:	--	52,932:	--
OTHERS						
India	--	1,525:	--	18,088:	--	11,808:
Japan	613:	700:	--	^{11/} 10,000:	--	^{11/} 50,000:
Philippine Is.	--	735:	--	3,091:	--	2,074:

1/ Average for 1935-37. 2/ Less than 1,000 pounds. 3/ Incomplete. 4/ Average for 1936-38. 5/ Not available. 6/ Incorporated in U.S.S.R. on August 3, 1940.
7/ For 1934 only. 8/ Includes Ghee. 9/ For 1939 only. 10/ For fiscal year beginning April 1. 11/ Unofficial estimate. 12/ Average for 1935 and 1936. 13/ Including Trade with Anglo-Egyptian Sudan. 14/ Average for 1934-37. 15/ Average for 1934 and 1935. 16/ Includes dried skim milk. 17/ Average for 1937-39. 18/ For 1935 only. 19/ For 1938 only.

U.S. DEPARTMENT OF THE ARMY
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FOREIGN AGRICULTURE CIRCULAR

OFFICE OF FOREIGN AGRICULTURAL RELATIONS
UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

FD 11-50

October 9, 1950

WORLD OUTPUT OF DAIRY PRODUCTS, SECOND QUARTER, 1950

Factory production of butter and canned milk in many of the important producing countries of the world increased in the second quarter of 1950, as compared with the same quarter of 1949. Conditions in these countries were favorable for milk production in this period, and the resulting higher milk output made available larger quantities of milk for utilization in the manufacture of dairy products.

In Europe the high level of milk production in the April-June quarter is attributable to the continued increase in cow numbers in most countries, and to more satisfactory grazing and feed conditions. An appreciable rise in cow numbers was evident in the Netherlands where milk production increased approximately 14 percent in the second quarter over a year earlier. Cow numbers also were higher in Denmark. Although pasture growth there in some areas was delayed by cold weather, conditions generally were favorable, and Danish milk production for the quarter was up 12 percent. In Western Germany, where the mid-season census indicated a further building up of cow numbers, and yield per cow continued relatively high, milk output was estimated as approximately 24 percent above comparable 1949. Milk production in Switzerland also showed a substantial increase, reflecting the good weather that prevailed throughout the second quarter.

The steady upward trend in cow numbers was maintained in the United Kingdom, animals were in good condition, pastures were generally excellent and milk production for the period was well above that of a year ago. Although weather in Ireland in the second quarter was variable and to some extent adversely affected pastures, milk supplies to creameries were approximately 19 percent higher than in the corresponding quarter of 1949.

In Australia, milk production is usually at the minimum level in the months under review, and in 1950 was 95 percent of the preceding year. In New Zealand, butterfat production has been declining more than seasonally in the past several months. Output for the quarter as a whole was only 79 percent of 1949 even though a slight increase occurred in June.

Milk production in Canada in the April-June quarter dropped slightly below the same quarter a year ago, due to the backward weather which was general throughout the Dominion and which in turn retarded pasture growth. In the

United States, the late flush in milk flow resulting from the below-normal temperatures over most of the country in early spring influenced milk production. Output for the quarter was only about one percent higher than for the corresponding quarter a year earlier.

Butter production in factories in the second quarter of 1950 showed the greatest increase among the manufactured dairy products. Output in the Netherlands was 23 percent higher than in comparable 1949, reflecting the increase in milk production. In Denmark, most of the rise in milk production in this quarter was mainly absorbed in the manufacture of butter, output of which rose 16 percent over a year earlier. Swiss butter production increased approximately 18 percent in the second quarter, due largely to the excess of fresh milk available in May and June when regulations requesting milk for cheese manufacture were relaxed somewhat. Higher milk production in Western Germany increased the supply being directed to creameries, and factory butter output for the quarter was 5 percent over the same months of 1949. Swedish butter production which has been continuing at a high level rose 16 percent in the period under review compared with the preceding year.

In the United Kingdom, where a large proportion of manufacturing milk is utilized for butter production, output of that commodity in the second quarter showed a gain of more than 50 percent. Milk deliveries to dairies in Ireland were considerably larger in the April-June quarter during 1950 than last year, resulting in an increase of 15 percent in the output of factory produced butter.

Butter production in Australia in the second quarter was down in all States except Queensland, and although this is one of the leading dairy States, the slight increase there was not sufficient to offset the decline in other areas. Output for that country in this quarter was 97 percent of last year. In New Zealand, where butterfat production was considerably below comparable 1949, butter graded-for-export declined sharply in the period under review.

Reduced output of Canadian butter reflected the lower milk production and the large quantities of milk going into fluid use. In the United States, a smaller milk output in May was accompanied by a reduction in the quantity of butter produced to below last year's level.

Cheese production decreased generally in the second quarter of 1950, compared with a year earlier. In Switzerland, less cheese was produced in May and June because Swiss dairy organizations feared it would be difficult to market a larger volume of cheese abroad, due to competition from countries with lower cheese prices and a relatively deflated currency. Swiss cheese production in the second quarter was 95 percent of the same quarter of the preceding year. Production of cheese in the Netherlands was lower in this quarter, the export demand being for butter. However, cheese prices in May improved somewhat, a factor which may stimulate production in succeeding months. Swedish cheese manufacture dropped to 80 percent of that for the second quarter of 1949. Because of an excess production of cheese, with consequent stock-piling in 1949, output has been curtailed by means of special production levies. However, these

excess stocks have now been moved into consumption, - in part through exports, - and cheese production is now being raised to the normal level. In Denmark, where smaller quantities of milk were directed into cheese production than in the same period of 1949, cheese output was only 79 percent of the earlier year. Cheese production in the United Kingdom, on the other hand, rose 49 percent in the April-June quarter, reflecting larger residual supplies of milk from fluid uses than existed a year earlier.

Both Australia and New Zealand report cheese production below the 1949 level. In the former country output was 93 percent in this quarter, while in New Zealand, cheese-gradings for export were 99 percent of the earlier year.

Canadian cheese output declined more than any other manufactured dairy product, as more milk was sold for fluid purposes or fed on farms. In the United States, the late flush in milk flow due to unseasonably cool weather resulted in a falling-off in production in April and May, particularly in the output of American cheese which accounts for about 80 percent of all cheese production for the quarter dropped to 98 percent of the same quarter of the previous year.

Statistics on canned milk production in the second quarter of 1950 were available for 6 important producing countries. In the Netherlands, the strong export demand encouraged production of canned milk, output of which in this quarter increased 49 percent. An increase of 40 percent was reported in the United Kingdom where large quantities of milk continue to be diverted to condensedensery products.

Cuban production of canned milk declined in May and June from the high levels of the preceding months. However, the high output of April was sufficient to offset some of this decline, and production for the quarter as a whole showed a gain of about 3 percent.

In Canada, a sharp increase occurred in evaporated milk production in June which reversed the production trend of the past several months. Output of all types of canned milk for the quarter rose 3 percent over comparable 1949. Production in the United States in the April-June period dropped to 95 percent.

Dried milk production statistics are not collected quarterly by all producing countries. However, the figures submitted in this report cover the major portion of the world's production. In the United Kingdom, the supply of milk diverted to dried milk production is smaller than that directed into the manufacture of other dairy products. However, sufficient quantities were available for dried milk in the second quarter for an increased production amounting to 20 percent. The only other country in which dried milk output was higher than a year ago was the Netherlands, production there being up 49 percent as a result of the switch in the utilization of milk from cheese to butter. Sweden continued to reduce dried milk production because of the declining demand. Output in the April-June quarter was only 40 percent of April-June, 1949. In Canada, dried milk production continued a downward trend and in the second

quarter dropped to 86 percent of last year's output. Lower non-fat solids production in the United States in April and May resulted in a total dried milk output for the quarter to 95 percent of comparable 1949.

Current Conditions Abroad.--

Dublin: - Because of unfavorable weather conditions in Ireland in August and early September, the harvest is later than usual. In some areas, much of the hay has been lost, and in others, has been haphazardly saved between showers, thereby reducing its nutritive value.

London: - Wet weather and frequent showers have been general in the United Kingdom since July, and have produced unusually good pasture growth for this time of year.

Copenhagen: - Denmark's grasses and pastures now are excellent following considerable falls of rain. Roots also benefitted from the additional moisture.

Frankfurt: - Increases in the production of livestock products in Western Germany are expected to continue as a result of increased livestock numbers and improvement in both feeding and breeding. In addition, the Government's campaigns for increased milk consumption and sanitation continue and their success will tend to encourage increased production.

Wellington: - Colder weather in New Zealand has recently been reported. There is an urgent need prevalent for warm rains to stimulate pasture growth. The predominance of heavy frost is said to have brought growth to a standstill and stocks of supplementary feeds are being rapidly used.

Sydney: - As a result of heavy rains in many areas of Australia, pastures are now in good condition and a satisfactory spring is expected.

---By Regina M. Murray, based in part upon U. S. Foreign Service reports from countries referred to.

DAIRY PRODUCTS: Factory output in principal producing and exporting countries,
second quarter (calendar) 1950, with comparisons

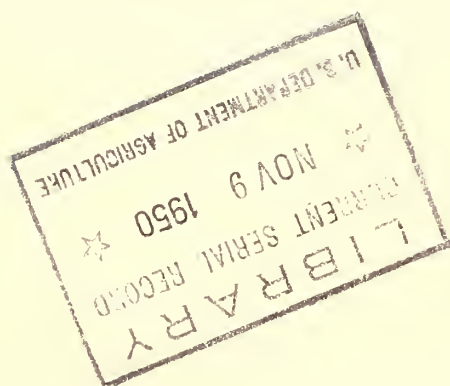
Country and product	Average 1934-38	Total 1949	1949			1950			Second quarter 1950/49
			1st	2nd	3rd	4th	1st	2nd	
			Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Percent
			pounds	pounds	pounds	pounds	pounds	pounds	
Canned milk									
Canada 11/	92,377:	269,277:	95,416:	1,335,115:	81,252:	50,041:	37,633:	98,022:	103
United States 11/	2,469,535:	3,873,060:	1,335,115:	1,118,730:	1,118,730:	666,335:	819,750:	1,302,400:	98
Cuba.....14/	32,564:	44,982:	9,072:	18,312:	18,312:	13,860:	7,644:	9,366:	103
Denmark.....11/	40,785:	81,835:	24,824:	14,980:	14,980:	25,336:	-	-	-
France.....12/	28,953:	-	22,627:	-	-	-	-	-	-
Netherlands.....	304,896:	260,894:	74,527:	66,248:	66,248:	62,884: 1/	73,058:	110,853:	149
Switzerland.....	14,198:	-	-	-	-	-	-	-	-
United Kingdom.....	378,560: 1/	221,401: 1/	124,992: 1/	25,267: 1/	25,267: 1/	40,051:	68,992:	175,347:	140
Australia.....16/	41,894:	134,064:	22,944:	25,202:	25,202:	56,751:	37,077:	22,377:	98
New Zealand.....14/	11,273:	-	-	-	-	-	-	-	-
Dried milk 13/									
Canada.....	23,488: 1/	75,915: 1/	28,348: 1/	23,259:	23,259:	13,735: 1/	10,724:	24,417:	86
United States.....14/	203,555:	1,047,810:	371,165:	262,395:	262,395:	186,710:	244,101:	364,060:	98
Belgium.....	5,500: 1/	8,059:	4,293: 1/	2,344:	2,344:	815:	1,394:	-	-
Denmark.....	2,205:	20,340:	3,642:	4,641:	4,641:	9,683:	-	-	-
France.....12/	7,685:	-	1,552:	-	-	-	-	-	-
Netherlands.....	56,438:	62,472:	33,754:	17,483:	17,483:	7,154: 1/	14,926:	50,303:	149
Sweden.....	1,351:	33,024:	10,282:	10,854:	10,854:	6,020: 1/	4,244:	4,167:	40
Switzerland.....	2,381:	-	-	-	-	-	-	-	-
United Kingdom.....	33,600: 1/	60,479: 1/	32,793: 1/	8,870: 1/	8,870: 1/	7,975:	19,174:	39,424:	120
Australia.....16/	16,971: 14/15/	98,318: 14/	16,742: 14/	19,265: 14/	19,265: 14/	38,555: 1/14/	26,739: 14/	12,706:	76
New Zealand.....16/	17,429:	-	-	-	-	-	-	-	-

1/ Revised. 2/ Total production is estimated at 143,299,000 pounds in 1949. 3/ Total production. 4/ Less than a 5-year average. 5/ Estimated.
6/ Production year beginning July 1. 7/ Production year beginning April 1. 8/ Marketing year beginning August 1. 9/ Total cheese, and includes
cheese made from the milk of sheep and goats. 10/ Includes farm cheese. 11/ Both bulk and case goods. 12/ For 1937 only. 13/ Total dried-whole
and dried-skim milk for human consumption. 14/ Includes infants' foods, health beverages, etc. 15/ Production of dried-whole and dried-skim milk
was 67,109,000 pounds in 1949. 16/ For 1938 only.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, U. S. Foreign Service reports, and other information.
October 9, 1950.

DAIRY PRODUCTS: Factory output in principal producing and exporting countries,
second quarter (calendar) 1950, with comparisons

Country and product	Average 1934-38	Total 1949	1949		1950		Second quarter 1950/49
			2nd Quarter	3rd Quarter	1st Quarter	2nd Quarter	
			1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	Percent
Butter							
Canada.....	248,119:	278,657:	92,600:	103,430:	30,806:	88,068:	95
United States.....	1,673,328:	1,408,730:	442,565:	378,000:	321,360:	451,565:	102
Belgium.....	46,179:2/	57,170:	18,370:	18,008:	12,687:	-:	-
Denmark.....	400,660:	344,358:	100,088:	97,003:	82,452:	116,403:	116
France.....	444,888:	233,915:	71,943:	67,514:	55,494:	-:	-
Germany, Western.....	-:1/4/	522,397:1/	154,442:	160,716:1/	109,364:	161,205:	105
Ireland.....	89,400:1/	76,805:1/	24,405:	32,645:	4,956:	28,131:	115
Netherlands.....	201,000:	184,878:	61,026:	58,903:	35,150:	75,076:	123
Norway.....	24,930:	23,660:	9,771:	6,135:	3,157:	4,757:	-
Sweden.....	151,309:1/	216,139:1/	61,638:	61,347:	50,081:	71,208:	116
Switzerland 1/.....	57,760:1/	34,833:	9,460:1/	10,999:	8,731:	11,166:	118
United Kingdom.....	44,200:1/	23,476:	12,634:1/	3,629:	2,688:1/	19,085:	151
Argentina.....	65,742:5/	66,000:	-:	-:	22,046:5/	16,746:	-
Union of South Africa.....	27,725:	46,466:	11,134:	9,029:	17,956:	-:	-
Australia.....	437,032:	378,011:	64,070:	70,472:	105,816:	62,273:	97
New Zealand - total.....	366,049:1/	393,835:1/	39,245:	72,240:	107,318:	-:	-
Export gradings.....	314,753:	350,523:	33,272:	60,531:	97,099:	18,575:	56
Cheese							
Canada.....	114,699:	113,787:	40,273:	49,621:	4,791:	33,970:	84
United States.....	643,234:1/	1,189,825:1/	391,670:	319,025:	249,675:	385,255:	98
Denmark.....	68,820:	135,805:	45,415:	38,583:	26,456:	35,715:	79
France.....	363,098:	399,039:	128,634:	107,104:	-:	-:	-
Italy 9/.....	523,518:5/	485,000:	-:	-:	-:	-:	-
Netherlands 10/.....	266,549:	282,400:	93,744:	96,572:	35,437:	81,782:	87
Norway.....	39,067:	46,100:	17,268:	12,648:	12,841:	-:	-
Sweden.....	71,269:1/	144,474:1/	44,476:	43,378:	28,346:	35,715:	80
Switzerland.....	111,729:1/	108,799:1/	36,452:	38,067:1/	17,894:	35,549:	98
United Kingdom 10/.....	109,000:1/	74,324:1/	30,509:1/	17,069:1/	28,045:	45,517:	149
Argentina.....	67,873:5/	165,000:	-:	-:	44,092:5/	45,635:	-
Union of South Africa.....	10,195:1/	17,096:1/	3,921:1/	3,736:1/	5,085:	-:	-
Australia.....	49,111:	101,023:	13,198:	21,813:	23,753:	12,227:	93
New Zealand - total.....	201,272:1/	232,804:1/	24,808:	35,481:	74,245:	-:	-
Export gradings.....	194,175:	220,286:	32,856:	20,422:	77,419:	32,601:	99





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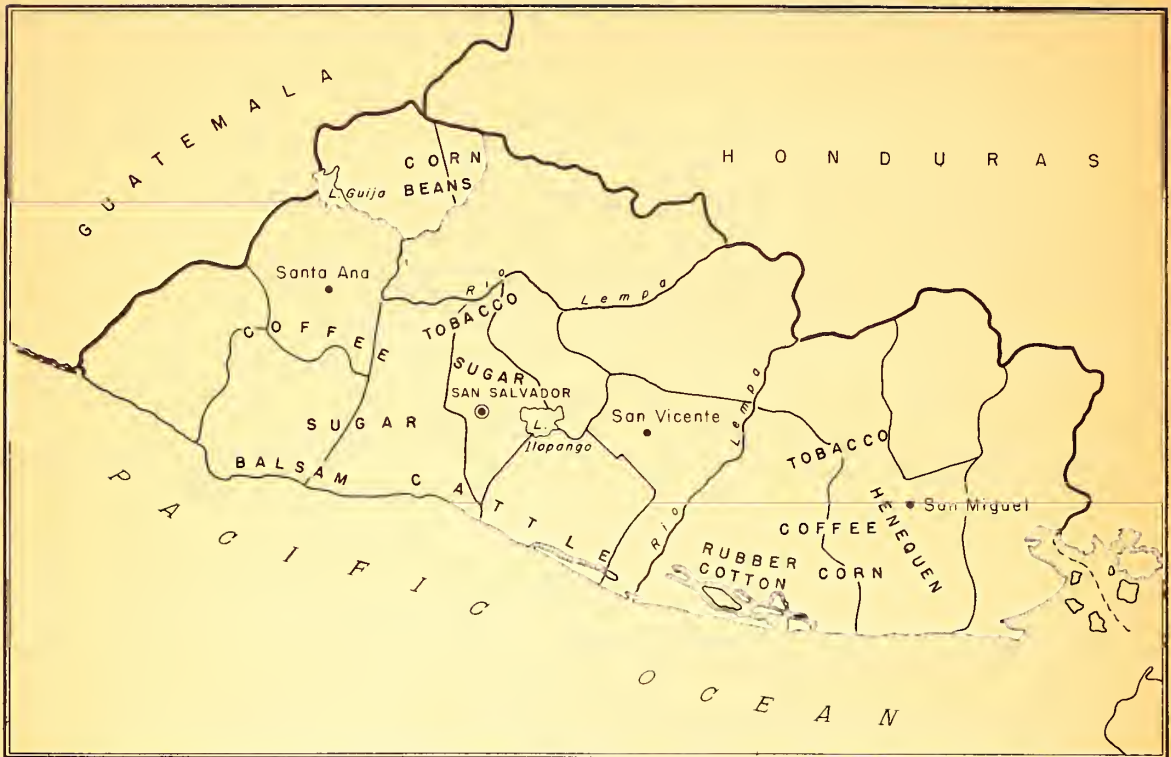
Outlook for Imports of United States Dairy Products in El Salvador

By George H. Day

CONTENTS

Summary	1
Some General Observations on El Salvador's Economy and the Market Outlook	1
Milk Production Distribution and Utilization in El Salvador	3
The Outlook for the Production of Milk and Dairy Products in El Salvador	5
<u>Market Outlook for Dairy Products</u>	
A. Outlook in General	5
B. Market Outlook by Commodities	7
Fluid Milk	7
Ice Cream	7
Dry Whole Milk	7
Nonfat Dry Milk Solids	8
Infants' and Dietetic Foods, Milk Base	9
Condensed Milk	9
Evaporated Milk	9
Cheese	10
Butter	11

Note: This is one of a series of preliminary reports of a study of market outlets for United States dairy products in Caribbean and Latin American countries conducted under the provisions of the Research and Marketing Act.



U. S. DEPARTMENT OF AGRICULTURE

OFFICE OF FOREIGN AGRICULTURAL RELATIONS

EL SALVADOR

El Salvador, with an area about equal to the State of Maryland and a population of about 2,200,000, is the smallest of the Central American Republics and the only one with a seacoast solely on the Pacific. While most of the cattle are found along the humid coastal plains, dairy herds and family cows are kept in the more populous interior region of plateaus and valleys. Coffee constitutes nearly 90 per cent of the value of all El Salvador exports.

Outlook for Imports of United States Dairy Products in El Salvador

By George H. Day
Agricultural Economist

Summary

El Salvador, a Central American country of about 2,200,000 people with no exchange restrictions and a favorable trade balance, a result of its increasingly valuable coffee trade, is expected to offer a growing though limited market for some United States dairy products. Although its per capita production of milk and dairy products is small and there is little likelihood of more than gradual increase, the same is true of its supply of foodstuffs in general. The bulk of its people do not possess purchasing power for more than the bare essentials which El Salvador can produce. At the present time probably not more than 10 to 15 percent of the population has the purchasing power to buy dry whole milk, condensed milk, and infants' and dietetic foods, the principal United States dairy product exports to that country. Most of these foods are used in child feeding. Thus, unless retail prices can be reduced by concerted effort, any expansion in the consumption of imported dairy products will have to be largely the result of a more general use within this group.

There are, however, some indications of a growing middle class. In addition, the installation of a hydroelectric plant and the realization of an irrigation project which is being planned for the lower Lempa River Valley may help to encourage the development of local industry and raise the level of wages.

In the meantime, efficiently operating school lunch and nutrition programs of the Ministry of Health and Sanitation are demonstrating the health value of sanitary milk through the distribution of several hundred thousand pounds of nonfat dry milk solids in the present year. If, through reductions in the tariff and other marketing costs, this food could be made generally available at prices more within reach of the bulk of the population, imports and consumption of nonfat dry milk probably could be increased many times over.

With a favorable outlook for El Salvador's income from coffee during at least the next few years, the prospect for increasing imports of certain United States dairy products appears good. In addition to the potential commercial prospect for nonfat dry milk under conditions mentioned above, imports of dry whole milk and milk base infants' and dietetic foods should continue to grow. Imports of processed Cheddar cheese and cheese foods also may register a gradual increase. El Salvadoran imports of evaporated milk are expected to continue to be of minor importance. Imports of butter are likewise expected to continue to be negligible.

Some General Observations on El Salvador's Economy and the Market Outlook

El Salvador, the smallest in area of the Central American Republics (barely 10,000 square miles), and the only one with a seacoast solely on the Pacific, is one of the few Latin American countries without restrictions on the use of foreign exchange. Postwar reserves of foreign exchange have been growing each

year, the result of a favorable export trade balance, and, barring a sharp decline in the production or in prices of coffee, there seems little likelihood of any restrictions on foreign exchange for some time.

Coffee, the predominant commercial crop of this agricultural country, accounted for over 86 percent of the value of all exports in 1949 and is the main source of the country's buying power. Exports of sesame seed, which were second in importance, reflect a recent sharp increase (interrupted by a reduction in the 1949-50 crop due to price break) in the culture of this crop. Other exports include cotton, sugar, vegetable oils, rice, henequen, gold, silver, and cotton textiles.

With the world supply of coffee not expected to increase appreciably in the next few years, the demand expected to remain good and El Salvadoran production expected to be at least maintained at the high volume of recent years, the prospects for El Salvador's income and for dairy product imports appear favorable.

A large part of the coffee is produced on a relatively small number of large estates, and most (about 85 percent) of the 12,000 coffee fincas (farms) scattered through the country are cultivated by individual farmers on tracts of less than 17 acres.

There is a concentration of economic power in the hands of semi-governmental corporations, largely under the direction of representatives of the large producers and processors, which exert considerable influence on the production, processing, and marketing of coffee and other important agricultural commodities. These organizations, together with the Ministry of Agriculture and Industry including the Centro Nacional de Agronomia (U. S. Department of Agriculture cooperating), are doing much toward improvement of yields and quality of coffee and other established crops, the conservation of natural resources, and the introduction of new varieties and crops to increase food supplies and provide the raw materials for small industries.

The extremely low income of the great mass of laborers and small, part-time farmers comprises an important limitation on the effective demand for dairy products. Although El Salvador produces nearly all of the food consumed by the middle and low income classes, there is a great need for more. The average per capita consumption is somewhat less than 2,000 calories per day, and the continuous diet of corn, beans, rice, and grain sorghum with an occasional native fruit suggests the need for greater balance. In addition, serious inequities in food distribution exist.

The conditions of poverty among rural labor are related to the period of unemployment which exists from March to September each year and to the difficulty of raising subsistence crops under primitive conditions on plots made extremely small by the scarcity of arable land. There is virtually no class of small, independent farmers. In addition, the wages of coffee workers have been extremely low. Over 80 percent of the families receive less than \$600.00 annually. With prices of purchased foods relatively high, it is estimated that over two-thirds of the coffee workers' wages are spent for nourishment.

In spite of the enigma relating to overpopulation, the depletion of soil and water resources, and the extremely limited extent of arable areas, El Salvador is making progress in the solution of its social and economic problems. Several Government and semi-Government organizations are working to improve industrial and agricultural conditions and the lot of rural and urban labor. Some large planters and their associations are improving the housing and care of their workers. The Ministry of Health and Sanitation through the Divisions of Health Education and of Maternal Hygiene are distributing increasing quantities of foodstuffs (including nonfat dry milk furnished by the United Nations International Children's Emergency Fund--UNICEF) to school children, preschool children, and mothers. Also cooperating with the Health Ministry in reducing disease and raising sanitation standards are a large group of urban and rural hospitals and the Institute of Inter-American Affairs. Among other programs for social betterment is a general program to establish small cooperative industries designed to utilize available raw materials and provide employment in the production of articles suitable for export.

A large new dam and irrigation project now being constructed on the upper Lempa River should help to encourage the development of local industry, which at present is limited largely to the production of a few consumer items, and to raise the level of wages. It is also expected to provide for an expansion in the production of food crops and reduce the amount of seasonal unemployment. An interesting sidelight in financing the construction of this dam is the fact that an appreciable part of the El Salvador-floated bonds were purchased by shop girls, small merchants, taxi drivers, and other small citizens, indicating the gradual growth of a middle class.

However, with an estimated 60 percent of all families receiving less than \$600.00 a year (70 percent receiving less than \$400.00 a year) and only about 5 percent with incomes of over \$2,400 annually, it would seem clear that not more than 20 percent (about 440,000 people) of the population represent a market for imported goods of any kind and that not more than 10 percent are potential consumers of much more than the most basic imported necessities. ^{1/} The experience with the school lunch program makes it apparent that Government and welfare agencies, under programs of food distribution, could appreciably increase the area of consumption by the distribution of such foods as nonfat dry milk.

In general, the intermediate outlook for the national income from coffee and the longer term outlook for increased industrial and agricultural development, with an attendant improvement in agricultural methods, suggests an outlook for a long-term gradual increase in the importation of dairy products.

Milk Production, Distribution and Utilization in El Salvador

The Director General of Statistics has estimated that there are about 750,000 head of cattle in El Salvador, which are used principally as oxen and for beef. The production of milk, for which little data are available, is of

^{1/} Based on an unpublished dispatch by J. A. Silberstein and J. Q. Ables from the American Embassy at San Salvador dated June 19, 1950.

minor importance. A Ministry of Agriculture survey made in late 1949 indicates that around 325,000 head are dual-purpose cattle used for beef and milk. Assuming that 30 percent of this number (about 100,000) are milked at some time during the year and that the annual average production per cow is about 1,250 pounds, total milk production in 1949 would have amounted to approximately 125 million pounds. There are a number of commercial herds, producing principally for urban fluid milk markets with an average production per cow somewhat greater than this average, but there are a considerably greater number scattered along the coastal plains, in suburban areas, and throughout remote areas of the country whose average production during lactation (the 6-month rainy season, May-October) is considerably less.

The production of milk for fluid purposes for San Salvador and the other principal cities, probably accounting for nearly 25 percent of the total milk production, is the main segment of the dairy industry operated on a commercial basis. 2/ Most of this milk is produced by approved herds under increasingly sanitary conditions with pasture feeding supplemented by the use of roughages (banana stalks and leaves, sorghums, grasses, and occasional legumes) and by locally produced concentrates (dry coffee pulp, rice bran, wheat millfeed, and cottonseed meal). Some is also produced on small subsistence farms. The relatively long distance from which this milk is shipped 3/, past many towns and villages, confirms the impression that the commercial supply is small relative to needs and suggests that approved milk is purchased by a relative few and that these have above-average incomes.

Much of the milk is produced by dual-purpose cattle located in the humid coastal plains where most of the land is owned by a few large coffee-plantation owning families. These pastures previously furnished a reservoir of oxen, which were used to cultivate the plantations or fincas but which have since been largely replaced by tractors and other sources of power. A large number of cattle are also used by small farmers throughout the uplands to produce milk as a part of their effort to obtain subsistence foodstuffs during the rainy period when there is little or no employment on coffee plantations. Most of these are farmer-laborers who rent a few acres of land on which they raise principally corn and beans and on which a few head of cattle are kept mainly as draft animals. They are sold for beef only when they become unserviceable for work or milk. The vast majority of rural and other laborers, of course, do not keep cattle. Until recently, virtually none of these cattle or those on the coastal plains received supplementary feeding in the dry season. This not only has reduced production and magnified seasonal food shortages but also has resulted in heavy death losses. Recently, as a result of the extension work

2/ The balance of the milk is produced on small farms or large ranches (principally beef) where the rainy season surplus is used mainly in the production of native cheese.

3/ Milk is brought in to San Salvador daily by rail and along the El Salvador Pan American Highway, from herds as far as the vicinity of Santa Ana, about 35 miles to the west, and from near San Miguel, about 75 miles to the east. Thus, the milkshed, especially in the dry season, extends almost from border to border.

of the Centro Nacional de Agronomía, a program for teaching the conservation of hay and of silage (through the use mainly of trench silos) has been started.

While some of this milk is used by the family owning the cow and others nearby, most of that above the immediate requirements is made into native fresh and hard cheeses and kept for later consumption or sold. Probably nearly half of the total milk supply is used in this way. An increasing quantity also is being used in cheese factories. Most of the market butter is understood to be made in small cheese factories whose output includes cottage and partly skimmed milk cheeses. Small farm-dairy-size churns are generally used. There are few bonafide butter factories, if any. ^{4/} In addition, some native butter is churned by hand on farms, presumably for sale in nearby markets.

The Outlook for the Production of Milk and Dairy Products in El Salvador

It is generally agreed that any increase in the production of milk and dairy products will be slow. The growing pressure upon the available crop land for the production of corn and other products for human food renders impracticable its use for livestock feed. While a gradual improvement in the use of existing pastures is likely, and some extension of pastures is possible, any increase in livestock feed from this source will be slow. It is probable that an increased use of locally produced concentrates of the types mentioned earlier and a greater use of hay and silage will result from the present extension programs. The use of legumes reportedly could make an important contribution. The Cattlemen's Association of El Salvador has imported purebred livestock and more recently the Ministry of Agriculture has developed a service program for the entire country. It is also administering a campaign for the prevention of livestock diseases. In the meantime, the vigorous program aimed at improving the conditions of producing and distributing fluid milk is increasing the general confidence in and the demand for milk and dairy products. This program deserves Government encouragement and the cooperation of the entire dairy industry.

There is no doubt, however, of the need for additional supplies of sanitary dairy products, especially those which might be made available at minimum prices. Such products, by making people milk conscious, should increase the demand sufficient to purchase all national milk products of approved quality.

Market Outlook for Dairy Products

A. Outlook in General

In spite of high tariffs, El Salvador's imports of certain dairy products have continued to increase along with the country's postwar increase in foreign trade, implemented principally by the recent increase in the value of her coffee exports. Her imports of dry whole milk, cheese and milk base infants' and dietetic foods, comprising three of her principal dairy product imports, have accounted for the greatest part of this increase. Imports of condensed

^{4/} The Dairy Industry of El Salvador by R. E. Hodgson and O. F. Hunziker. United States Department of Agriculture, January 20, 1943.

milk, also of importance, may have declined slightly. However, due in large part to the relatively high duties, these imports have been modest and are probably far below the country's needs for these highly concentrated foodstuffs. The import duty on dry whole milk and milk-base baby foods amounts to over 18 cents per pound, net, and the corresponding import duty on United States cheese amounts to over 15 cents per pound. The duty on condensed and evaporated milks, amounting to over 3 cents per pound, net, accounts for from about \$1.35 to \$1.50 per case, depending on tare. The gross duty on nonfat dry milk is the same as that on other dry milk products.

All dairy products are dutiable on the basis of the gross kilogram, and are quoted in U. S. dollars. There is, in addition, a consular fee amounting to 6 percent of the c.i.f. value of the merchandise and a physical culture surtax of 2 percent of the duty. Except for a 15 percent surcharge on duties applicable to shipments by parcel post, the other governmental charges are moderate.

With the exception of a number of small cheese factories which make some butter, El Salvador has few commercial dairy products manufacturing plants. The making of cheese, its principal processed dairy product, is carried on mainly as farm enterprise. Some of the butter, as well as the ice cream, cottage cheese and milk drinks, is made as a by-product of fluid milk plant operations. There are no condenseries or milk drying plants, and few butter plants, if any.

The population of El Salvador, as of December 31, 1949, estimated by the Director General of Statistics at 2,179,000, represents an increase of about 56,000 from the same date in 1948. The population, as of July 1, 1949, could thus be estimated at about 2,150,000. Assuming that the total estimated 1949 milk production of 125 million pounds (which may be high) was consumed, adding a derived estimate of 2 million pounds, milk equivalent, of imports of all dairy products, and assuming no significant inventory change (exports are negligible), consumption would have totaled about 127 million pounds of milk equivalent. This would indicate a per capita consumption of about 60 pounds compared with 760 pounds in the United States in that year. Actual consumption, of course, would have been less due to plant, marketing and utilization losses in connection with the national production of cheese, butter and other products. When this is considered in the light of the inequities of distribution, it must be concluded that the consumption of dairy products by some groups is low indeed. Probably over half of the population has little or no access to dairy products in any form.

In view of the country's increasingly favorable balance of trade, the absence of import restrictions, and the likelihood of a gradual increase in industrialization, the purchasing power of El Salvador is likely to encourage some further increase in imports, principally of the products mentioned above. The extent of the increase will be limited, however, unless tariffs or other costs are reduced. This is especially true of such low cost foods as nonfat dry milk and cheese foods which could contribute much to the variety, balance, and food value of the diets of low income classes.

B. Market Outlook by Commodities

Fluid Milk. The supply of fluid milk for the San Salvador market has been undergoing an intensive program of quality improvement started early in 1949 under the Director of Local Services of the Ministry of Health and Sanitation. The standards are high, and the program to improve both the quality of raw milk and the processing, pasteurization and distribution is being rigidly enforced. This program is being given the increasing cooperation of El Salvador's dairy-men. Concurrent with the benefits of this program and other efforts on the part of health and nutrition leaders, there has been a growing general appreciation of the value of establishing and maintaining high standards for all milk products. However, although the prices of most fluid milk compare favorably with those in fluid markets of the United States, per capita consumption in San Salvador is estimated to be about 0.2 pint daily. The price of milk in public markets of 0.25 colon 5/ per botella (about .8 quart) is equivalent to about U. S. \$0.125 per quart. A little over 25 percent of the supply is delivered to homes in metal-capped liter and half liter bottles at 0.50 colon per liter (about U. S. \$0.19 a quart). This reemphasizes the limited extent of consumer demand at present prices and the necessity of supplying dairy products at lowest possible prices if consumption is to be increased.

Buttermilk, chocolate drinks, and other skim milk beverages are finding an increasing market. A large part of the imported nonfat dry milk is used in these products.

The relatively low import duty on pasteurized or sterilized whole milk (somewhat less than U. S. \$0.02 per pound net) suggests the possibility of shipping canned chocolate milk and milk drinks into this market. The tariff on pasteurized or sterilized fresh cream amounting to U. S. \$0.30 per gross kilogram 6/ (about U. S. \$0.17 per pound, net) serves to limit the market for this type of product. However, if such cream is evaporated or condensed (presumably in cans) it apparently takes the same import rate as evaporated or condensed milk (U. S. \$0.06 per gross kilogram).

Ice Cream. The demand for this product, although limited, is increasing moderately. The most popular types are reportedly being made from local butterfat and imported nonfat dry milk. The high import duty on dry ice cream mix (amounting to over U. S. \$0.16 per pound, net) has reportedly served to retard the use of this product.

Dry Whole Milk. Imports of this product, most of which are shipped from the United States, have increased sharply since the end of the war. United States exports of this product to El Salvador in 1949 amounted to slightly over 100,000 pounds compared with about 57,000 pounds in 1948, 47,000 in 1947, and 18,000 in 1946. Although dry whole milk represents our most important dairy product export, both in volume and value, its use has undoubtedly been retarded

5/ One colon = U. S. \$0.40.

6/ One kilogram = 2.2046 pounds.

in the past both by the relatively high import duty (over U. S. \$0.18 per pound, net) and consular fee (amounting to at least U. S. \$0.03 per pound, net) and by the fact that it has been regarded largely as a pharmaceutical for use principally by invalids and children. The recent increase in sales of this product appears to indicate a growing appreciation of its value in the family diet, as well as its increased use for children, especially during the pronounced dry seasons of low milk production. In addition to being sold in drug stores, it is now supplied by groceries in most of the large towns. Although the 1-pound can is the most popular, there has been some increase in the family use of 5-pound cans. There also appears to be a potential demand for this product in units somewhat less than 1 pound if packed in airtight moisture- and odor-proof containers. Some 5-pound cans are used by bakers, ice cream factories, and confectioners.

Prospects for further increase in the consumption of this product appear good. The demand for this product also appears to be quite elastic. There is general agreement among the trade that a 20 percent reduction in the retail price, such as might be accomplished by the removal of the principal import charges, would result in an increase in consumption of up to 50 percent. Even at present prices, purchases are occasionally made by those in low income groups.

Retail prices of dry whole milk in early April 1950 ranged from 2.50 to 3 colones, or from U. S. \$1.00 to \$1.20 per 1-pound can, depending on type of store and brand. This compares with a price of U. S. \$0.85 to \$0.90 per 1-pound for the same brands in Guatemala and in Tegucigalpa, Honduras.

With respect to packaging, the usual commercial export carton has proven generally satisfactory.

Nonfat Dry Milk Solids. Although increasing, commercial imports of this product, most of which originate in the United States, have been of minor importance. United States exports in 1949 totaled less than 11,000 pounds, and there has been only a moderate development of its industrial uses. Such exports of 169,400 pounds in the first half of 1950 apparently were principally for use in the UNICEF program discussed below. The combined import duty and consular charges, amounting to more than U. S. \$0.16 per net pound, are higher than the c.i.f. price of the product at Puerto Barrios or La Union. This has undoubtedly served as a deterrent to its use. It is being used in bakery products, ice cream, confections, and in the reliquefaction of milk drinks. Its use in bread, ice cream, and beverages could be somewhat expanded.

The most important development in the introduction of this product has been its rapidly expanding use in the efficiently planned and executed school lunch and maternal care programs under the Ministry of Health and Sanitation mentioned above. Under this program, which started in April 1950, it is expected that several hundred thousand pounds of nonfat dry milk and of other foodstuffs supplied by UNICEF will be used in supplying nutritious beverages and foodstuffs in the present year. This program may make an important contribution in acquainting Salvadorans with this flavorful and nutritionally balanced food, and its possibilities in increasing the caloric content of the average diet. Through education and demonstrational work, nonfat dry milk could contribute important proteins, minerals, vitamins, and other needed elements to the diet

of adult workers through such daily items as cafe con leche, milk drinks, and possibly some foods. It could furnish a sanitary and economical food in periods of drought. It could thus contribute much to their health and welfare. In addition, by making people milk conscious, it could serve to help develop a demand for national fluid whole milk as an increasingly large amount of that milk becomes acceptable under the present program of the Ministry of Health and Sanitation.

Infants' and Dietetic Foods, Milk Base. Imports of this class of dairy products, supplied largely by the United States, have shown a steady increase since the war in spite of import duties, which are the same as for dry whole milk. United States exports to El Salvador in 1949 amounted to over 67,000 pounds. Such exports in the first 6 months of 1950 amounted to over 50,000 pounds. Most of it is sold through pharmacies on doctors' prescriptions. It is reportedly purchased throughout the country by both rich and poor. The retail price in 1-pound cans has been around 3.50 colones (about U. S. \$1.40) per can. The use of this product could undoubtedly be expanded with a reduction in the tariff and other marketing costs.

Condensed Milk. Apparently all of El Salvador's supply of this product is imported, most of it from the United States. Exports of condensed milk from the United States to El Salvador in the 3 years 1947-49 averaged about 90,000 pounds annually. Such exports increased sharply in 1950, amounting to 96,000 pounds in the first 6 months. There may also have been imports from other sources, including Canada. Imports of this product are considerably greater than those of evaporated milk, and apparently are exceeded in volume only by imports of cheese and dry whole milk.

Condensed milk, in addition to some dry whole milk, reportedly is purchased by nationals all over the country, mostly for the feeding of infants. For older children, relatively greater amounts of dry whole and fresh milk reportedly are used. Probably over half of the condensed milk is distributed through pharmacies, the balance being sold largely through grocery stores. The bulk of it is sold in 14-ounce cans with a relatively small sale in cans of 4 ounces each. Limited amounts of condensed milk also are used in the manufacture of ice cream. Total import charges (including duty, consular fees, etc.) are estimated at about U. S. \$2.00 per case of 48 14-ounce cans. The retail price per 14-ounce can in early April 1950 was about U. S. \$0.32 (about 0.80 colon), compared with about U. S. \$0.26 per can in Guatemala and about U. S. \$0.40 in Honduras.

Evaporated Milk. Most of the 15,000 pounds (about 3,500 cases) of evaporated milk imported annually from the United States to El Salvador in recent years (1947-1949) reportedly has been sold to North Atlantic and European people with only relatively small amounts consumed by the national population. Its sale is limited largely to the bigger cities. Most of it is sold in the 14.5-ounce can, although there has been a limited demand for evaporated milk in 6-ounce cans. No imports in the No. 10 can have been reported.

Total importing charges (including duties, consular fees, etc.) are estimated at about U. S. \$1.95 per case of 48 14.5-ounce cans. The retail price for 14.5-ounce can has been about U. S. \$0.30 (0.75 colon) compared with about U. S. \$0.18 per can in Guatemala and about U. S. \$0.35 to \$0.375 in Honduras.

Although there has been no recent sharp increase in imports of condensed and evaporated milk comparable with those for dry whole milk and cheese, prospects appear good for at least a steady market for both products in El Salvador.

Cheese. This food probably represents the processed dairy product most generally produced and consumed in El Salvador. Domestic production has been estimated as high as 21 million pounds annually. Based on the estimate of milk production and utilization suggested above, an annual production of about 7 million pounds would be indicated. Most of this is farm or native cheese known as "queso de prensa" or pressed cheese. It is heavily salted, pressed into blocks of varying size and, except for that which is smoked and dried, is generally marketed soon after it is made. The rest of the cheese is made in small factories which, in addition to a relatively large quantity of pressed cheese, process cured cheeses (hard cheese, Cheddar and Edam), cream cheese, and cottage cheese. Some of these factories are cooperative enterprises. 7/ In addition there is a small amount of reworked second-curd cheese known as requeson.

El Salvador has been sharply increasing her imports of cheese since the war, while its exports have become negligible. By far the largest supplier is nearby Honduras, which supplied over 175,000 gross kilograms (nearly 350,000 pounds net) or 93 percent of El Salvador's total imports amounting to nearly 189,000 gross kilos in 1948, the latest year for which official El Salvador estimates are available. This cheese, presumably similar to El Salvador's native types, was imported duty free under an existing treaty of free commerce with that country. According to the same source, imports from the United States amounting to slightly less than 10,000 gross kilograms, a little less than 5 percent of the 1948 total, were second in importance, while imports from Switzerland and the Netherlands, third and fourth in importance, amounted to a little more than 1,000 kilograms each. A little less than 900 kilograms were received from Italy.

Most of the United States exports to El Salvador are classified as processed Cheddar or other blends and spreads. Total United States exports of all types to El Salvador amounted to 17,600 pounds in 1949 and 17,250 pounds in 1948. Cheese imported from the United States is dutiable at the conventional rate of U. S. \$29.29 per hundred gross kilograms (slightly over U. S. \$0.15 per pound, net). To be eligible for this rate, the origin of United States cheese must be specified on the commercial invoice. Total import charges (including duty, consular fees, etc.) are estimated at slightly over 18 cents per pound, net.

There appears to be a moderate but steady market for processed Cheddar and cheese foods. There is also a small but steady market for Holland Goudas, Swiss, Parmesan, Gruyere, and other specialty type cheeses among high income classes and foreign colonies. Uniformity and slicing qualities are important qualities in this trade.

7/ The Dairy Industry of El Salvador by R. E. Hodgson and O. F. Hunziker. United States Department of Agriculture, January 20, 1943.

The retail price per pound of processed American Cheddar in 1-pound cartons, amounting to about U. S. \$1.00 (2.50 colones) in early April 1950, was about the same as that charged in comparable stores in Guatemala. The price of Holland Gouda in 1-pound cartons was equal to about U. S. \$1.20 per pound.

Butter. Local production in small factories, on farms, and in fluid milk distribution plants has been reported to be as high as 1,300,000 pounds annually. Although actual production may be somewhat less, imports of this product are negligible, and there have been virtually no shipments from the United States in recent years.

The relatively limited consumption among higher income groups is supplied largely from local butter of reportedly good quality at retail prices amounting to about U. S. \$0.85 to \$0.90 per pound, with a small amount of Danish butter in 1-pound tins selling at nearly twice this price. Total importing charges on butter from the United States would amount to about U. S. \$0.20 per pound, net. It is doubtful whether the market for imported butter is of sufficient size to warrant special development efforts.

Due largely to its relatively high importing cost (amounting to nearly U. S. \$0.30 per pound, net) there is little competition from imported margarine. The retail price of margarine in 1-pound cartons in early April was only slightly less than for local butter. In addition, El Salvador is relatively well supplied with vegetable fats and oils from sesame seeds and cottonseed and to some extent from peanuts and copra.

A C K N O W L E D G M E N T

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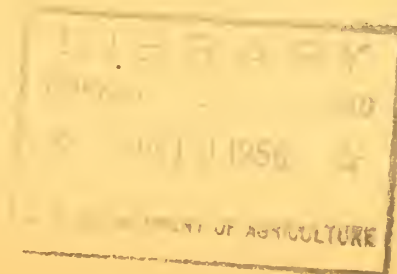
WORLD OUTPUT OF DAIRY PRODUCTS, FIRST QUARTER, 1950

The overall factory production of dairy products in the January-March quarter of 1950 continued to show gains over the corresponding period of a year earlier in practically all major producing countries. Increased output of milk attributable in most instances to improved grazing and feed conditions, made available larger quantities of milk for manufacturing purposes.

New Zealand was the only country important in dairying in which unfavorable weather in the first quarter retarded milk production. Moisture in most areas there was insufficient to promote normal pasture growth, and milk production in this period was 5 percent below that of a year ago. On the other hand, conditions in Australia in the January-March quarter were generally good for production, and milk production for the country as a whole showed an improvement over the comparable period a year ago.

In the United Kingdom where conditions favored production, the output of milk in the first quarter of 1950 was 13 percent above that of the same quarter of 1949. Mild weather in Ireland in the first 3 months of 1950 caused an early growth of grass, cows were maintained in good condition, and milk deliveries in this quarter rose 18 percent over the preceding year.

Milk production in the Netherlands in the opening quarter of 1950 was approximately 15 percent above comparable 1949, mainly as the result of larger supplies of better quality feed, and an increase in dairy cow numbers. Weather conditions in Denmark throughout the first quarter were exceptionally favorable, very little frost being experienced. Feed supplies were satisfactory, due largely to the heavy 1949 hay crop, and milk production in this period was higher than last year by 18 percent. In Western Germany, the quarter under review was the first since the close of the war in which the feed situation was comparable to peace time, according to the Ministry of Food and Agriculture. With sufficient



concentrates, an increase in milk cow numbers and in yield per cow, milk production for this quarter showed a considerable increase. Conditions in both Norway and Sweden in the first 3 months of 1950 were favorable for milk production and significant gains were reported in both countries.

In this Hemisphere, milk production in Canada showed an increase of 3 percent in the opening quarter, in spite of severe cold weather and heavy snows in many parts of the Dominion throughout January and February. In the United States, with yield per cow at record levels, and with larger numbers of milk cows, milk output for the quarter rose 4 percent over the same period a year ago.

Butter production in factories increased generally in the first quarter of 1950. In the United Kingdom, where much more milk went into manufacturing in this quarter than a year ago, substantial quantities were used for the output of factory butter, production of which was approximately 73 percent higher than comparable 1949. Larger milk deliveries in Ireland in this quarter brought about an increase in factory butter production of 36 percent.

In Belgium, first quarter output of butter in factories rose 57 percent, reflecting the greater quantity of milk available for manufacturing in this period, compared with the same period of 1949. Dutch dairies produced 40 percent more butter in the opening quarter of 1950 than in the comparable quarter a year earlier. This increase was largely due to the strong export demand and was accomplished at the expense of cheese production. A similar situation existed in Denmark. Butter output for the quarter, approximately 23 percent higher than the corresponding quarter of the previous year, was accompanied by an increase in exports of 15 percent.

Production of butter in Western Germany continued high and in the January-March quarter of 1950 ran 22 percent ahead of a year earlier. Other European countries showing important gains in butter output in this period were Sweden, 13 percent, and Norway, 3 percent.

Canada produced 30.8 million pounds of factory butter in the first quarter of 1950, compared with 30.4 million pounds in the same quarter of 1949,--an increase of a little more than one percent. This is significant in view of the heavy production of and competition from margarine. In the United States, more milk was channeled into manufactured products in this quarter, and butter production was larger, by 8 percent than in comparable 1949.

Australian butter output reflected the slight gain in milk production which occurred there during the first quarter of this year. Of the important dairy producing countries only New Zealand showed a lowered butter production, conditions there being definitely less favorable than they were a year ago.

Overall cheese production in the first quarter of 1950 was somewhat larger than comparable 1949. In Norway, where conditions for production were favorable, output gained relatively more than that of any other Continental European country, production there being 57 percent over 1949. Output in Denmark in this period increased only 6 percent, most of the surplus milk which ordinarily would have been utilized for cheese being deflected to butter manufacture for which there was a strong export demand.

In the Netherlands, the quantity of cheese produced in the first 3 months of 1950 was only 91 percent of the corresponding months a year ago, more milk being utilized for butter in this quarter to meet the needs of the export market. However, it is expected that export demand for butter will decline as the season advances, and that butter will be reduced in favor of cheese. Production in Switzerland in this period also dropped below that of a year ago.

Output of cheese in the United Kingdom reflected the rise in milk production in this period. Most of the increase was diverted to the manufacturing of dairy products, with cheese accounting for the major part of the surplus. Production in this quarter rose 66 percent over the same quarter last year.

In both Australia and New Zealand, cheese production rose above the levels of a year ago. In Australia, this increase amounted to 2 percent, in New Zealand to 4 percent for total factory cheese and to 7 percent for cheese graded for export.

More milk became available for processing in Canada in the first quarter and in line with heavy commitments to the United Kingdom, cheese production was increased by 82 percent. In the United States, where production of cheddar cheese is carried on on an extensive scale, output of that type was only about 96 percent of the earlier year, while overall cheese output in this country was 99 percent of comparable 1949.

Statistics on canned milk production for the first quarter of 1950 are available at this time for only 5 of the important producing countries. Increases occurred in all of these countries with the exception of Canada, where production was held to 88 percent of the January-March 1949 quarter as the result of a decline of 5 percent in the output of evaporated milk. In the United States, the largest producer of canned milk, production rose 9 percent in the opening quarter of the present year. For evaporated milk, output of which is much heavier than that of condensed milk, the increase amounted to 12 percent.

Canned milk production in the Netherlands was 30 percent higher in the period under review than in comparable 1949. As in the case of butter, this increase reflected the strong export demand, and was accomplished at the expense of cheese production. The United Kingdom and Australia, the only other countries for which returns are available, made substantial gains in the manufacture of canned milk in the first 3 months of this year.

All reporting countries showed an increase in the production of dried milk in the opening quarter of 1950 except Sweden, where output was down to 68 percent of last year. The diversion of larger quantities of milk to manufacturing purposes in the United Kingdom accounted for the rise of 77 percent in dried milk production which occurred there in the first quarter of this year. In the Netherlands, Belgium, Australia and Canada, the quantity of dried milk produced in this period was substantially above that of a year ago. The world's largest producer of dried milk is the United States, and in the initial quarter of 1950, output there was 8 percent above the corresponding quarter of 1949. This increase occurred in the processing of non-fat dry-milk solids, production of which has set a record in each month in the past year and a half. For the first 3 months of 1950, output was 10 percent above the same 3 months of 1949.

Current Conditions Abroad

London: In the United Kingdom, grass is growing well and dairy cows are in good condition. According to the Milk Marketing Board, current milk production is about 10 percent higher than at this time a year ago.

Dublin: Bad weather in Ireland at the end of May limited pasture growth and adversely affected milk yields.

Copenhagen: Until about June 1, grazing conditions in Denmark were excellent. However, continuous dry weather has been detrimental to grain crops and grass fields.

Frankfurt: The present feed situation in Western Germany is satisfactory. Meadows and pastures are green and concentrates are plentiful. If no unfavorable weather conditions develop, the roughage and bran supply will be adequate.

Bern: Sufficient rainfall has considerably improved pastures in Switzerland. However, warmth and sunshine are needed to improve the nutritive quality of the hay.

Sydney: Most dairy herds in Australia are in prime condition, there is an abundance of feed, and prospects are very promising for a good output of milk in the autumn and winter months of 1950. Butter rationing, first introduced in 1943, was ended on June 17.

Wellington: Warm rains in May greatly assisted pasture growth in New Zealand. Prevailing weather has been unusually mild. These conditions would appear to have alleviated the precarious situation as to reserve feed supplies for the winter months. Butter rationing, maintained since the war to permit the greatest supply to the United Kingdom, was terminated on June 4. With the removal of restrictions on butter sales, all rationing in New Zealand came to an end.

Prepared by Regina M. Murray under the supervision of Floyd E. Davis.
Based largely on reports from U. S. Foreign Service Officers.

DAIRY PRODUCTS: Factory output in principal producing and exporting countries,
first quarter (calendar) 1950, with comparisons

Country and product	Average 1934-38	Total 1949	1949				1950 1st quarter	1950 1st quarter	First quarter 1950/1949
			1st quarter	2nd quarter	3rd quarter	4th quarter			
			pounds	pounds	pounds	pounds	pounds	pounds	Percent
Butter									
Canada.....	248,119 : 1/	278,657 : 1/	30,401 : 1/	92,600 : 1/	103,430 : 1/	52,226 : 1/	30,806 : 1/	30,806 : 1/	101
United States.....	1,673,328 : 1/	1,408,730 : 1/	298,285 : 1/	442,565 : 1/	378,600 : 1/	289,280 : 1/	321,010 : 1/	321,010 : 1/	108
Belgium.....	46,179 : 1/2/	57,170 : 1/	8,105 : 1/	18,370 : 1/	18,008 : 1/	12,687 : 1/	12,751 : 1/	12,751 : 1/	157
Denmark.....	400,660 : 1/	344,358 : 1/	64,815 : 1/	100,088 : 1/	97,003 : 1/	82,452 : 1/	79,587 : 1/	79,587 : 1/	123
France.....	444,888 : 1/	233,915 : 1/	38,964 : 1/	71,943 : 1/	67,514 : 1/	55,494 : 1/	- : 1/	- : 1/	-
Germany, Western.....	- : 1/	522,000 : 1/	89,899 : 1/	154,101 : 1/	160,716 : 1/	117,284 : 1/	109,364 : 1/	109,364 : 1/	122
Ireland.....	89,400 : 1/	76,809 : 1/	3,656 : 1/	24,409 : 1/	32,645 : 1/	16,099 : 1/	4,956 : 1/	4,956 : 1/	136
Netherlands.....	201,000 : 1/	184,878 : 1/	25,806 : 1/	61,026 : 1/	58,903 : 1/	39,143 : 1/	36,023 : 1/	36,023 : 1/	140
Norway.....	24,930 : 1/	23,660 : 1/	4,597 : 1/	9,771 : 1/	6,135 : 1/	3,157 : 1/	4,757 : 1/	4,757 : 1/	103
Sweden.....	151,309 : 1/	216,163 : 1/	44,424 : 1/	61,662 : 1/	61,347 : 1/	48,730 : 1/	50,112 : 1/	50,112 : 1/	113
Switzerland 3/.....	57,760 : 1/	34,836 : 1/	5,642 : 1/	9,460 : 1/	11,003 : 1/	8,731 : 1/	- : 1/	- : 1/	-
United Kingdom.....	44,200 : 1/	23,700 : 1/	4,525 : 1/	12,634 : 1/	3,853 : 1/	2,688 : 1/	7,832 : 1/	7,832 : 1/	173
Argentina.....	65,742 : 5/	66,000 : 1/	- : 1/	- : 1/	- : 1/	- : 1/	22,046 : 1/	22,046 : 1/	-
Union of South Africa.....	27,725 : 1/	46,466 : 1/	14,460 : 1/	11,134 : 1/	9,029 : 1/	11,843 : 1/	- : 1/	- : 1/	-
Australia.....	437,032 : 6/	378,011 : 1/	104,741 : 1/	64,070 : 1/	70,472 : 1/	138,728 : 1/	105,816 : 1/	105,816 : 1/	101
New Zealand - total.....	366,049 : 1/	393,925 : 1/	118,651 : 1/	39,335 : 1/	72,240 : 1/	163,699 : 1/	107,318 : 1/	107,318 : 1/	90
Export gradings.....	314,753 : 8/	350,523 : 1/	106,833 : 1/	33,272 : 1/	60,531 : 1/	149,887 : 1/	97,099 : 1/	97,099 : 1/	91
Cheese									
Canada.....	114,699 : 1/	113,787 : 1/	2,629 : 1/	40,273 : 1/	49,621 : 1/	21,264 : 1/	4,791 : 1/	4,791 : 1/	182
United States.....	643,234 : 1/	1,189,610 : 1/	250,925 : 1/	391,455 : 1/	319,025 : 1/	228,205 : 1/	249,675 : 1/	249,675 : 1/	99
Denmark.....	68,820 : 1/	135,805 : 1/	25,353 : 1/	45,415 : 1/	38,581 : 1/	26,456 : 1/	26,896 : 1/	26,896 : 1/	106
France.....	363,098 : 1/	399,039 : 1/	74,374 : 1/	128,634 : 1/	107,104 : 1/	88,927 : 1/	- : 1/	- : 1/	-
Italy 9/.....	523,518 : 5/	485,000 : 1/	- : 1/	- : 1/	- : 1/	- : 1/	- : 1/	- : 1/	-
Netherlands 10/.....	266,549 : 1/	282,400 : 1/	38,845 : 1/	93,744 : 1/	96,572 : 1/	53,239 : 1/	35,437 : 1/	35,437 : 1/	91
Norway.....	39,067 : 1/	46,100 : 1/	8,168 : 1/	17,268 : 1/	12,648 : 1/	8,016 : 1/	12,841 : 1/	12,841 : 1/	157
Sweden.....	71,269 : 1/	144,434 : 1/	27,200 : 1/	44,436 : 1/	43,378 : 1/	29,420 : 1/	28,461 : 1/	28,461 : 1/	105
Switzerland.....	111,729 : 1/	108,562 : 1/	16,347 : 1/	36,345 : 1/	38,067 : 1/	17,802 : 1/	15,282 : 1/	15,282 : 1/	93
United Kingdom 10/.....	109,000 : 1/	73,070 : 1/	16,845 : 1/	30,285 : 1/	16,666 : 1/	9,274 : 1/	28,045 : 1/	28,045 : 1/	166
Argentina.....	67,873 : 5/	165,000 : 1/	- : 1/	- : 1/	- : 1/	- : 1/	44,092 : 1/	44,092 : 1/	-
Union of South Africa.....	10,195 : 1/	17,130 : 1/	5,421 : 1/	3,912 : 1/	3,758 : 1/	4,039 : 1/	- : 1/	- : 1/	-
Australia.....	49,111 : 1/	101,023 : 1/	23,401 : 1/	13,198 : 1/	21,819 : 1/	42,605 : 1/	23,753 : 1/	23,753 : 1/	102
New Zealand - total.....	201,272 : 1/	233,174 : 1/	71,244 : 1/	25,178 : 1/	35,481 : 1/	101,271 : 1/	74,245 : 1/	74,245 : 1/	104
Export gradings.....	194,175 : 8/	220,286 : 1/	72,473 : 1/	32,856 : 1/	20,422 : 1/	94,535 : 1/	77,419 : 1/	77,419 : 1/	107

DAIRY PRODUCTS: Factory output in principal producing and exporting countries.
first quarter (calendar) 1950, with comparisons

Country and product	Average 1934-38	Total 1949	1949				1950 1st quarter	First quarter 1950/1949
			1st quarter	2nd quarter	3rd quarter	4th quarter		
			pounds	pounds	pounds	pounds	pounds	Percent
Canned milk	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
Canada 11/	92,377	269,277	42,568	95,416	81,252	50,041	37,633	88
United States 11/	2,469,535	3,873,060	752,880	1,335,115	1,118,730	666,335	819,750	109
Cuba.....4/	32,564	44,982	3,738	9,072	18,312	13,860	-	-
Denmark.....	40,785	-	16,695	24,824	14,980	-	-	-
France.....12/	28,953	-	8,104	22,627	-	-	-	-
Netherlands.....	304,896	260,894	57,235	74,527	66,248	62,884	74,187	130
Switzerland.....	14,198	-	-	-	-	-	-	-
United Kingdom.....	378,560	217,191	31,091	121,318	24,999	39,783	68,992	222
Australia.....6/	41,894	134,064	29,167	22,944	25,202	56,751	37,077	127
New Zealand.....4/	11,273	-	-	-	-	-	-	-
Dried milk 13/								
Canada.....	23,488	74,631	10,573	27,301	23,022	13,735	10,866	103
United States.....4/	203,555	1,047,810	225,540	371,165	262,395	188,710	244,101	108
Belgium.....	5,500	8,061	607	4,293	2,346	815	1,394	230
Denmark.....	2,205	-	2,374	3,642	4,641	-	-	-
France.....12/	7,685	-	990	1,552	-	-	-	-
Netherlands.....	56,438	62,472	4,081	33,754	17,483	7,154	15,346	376
Sweden.....	1,351	33,024	5,868	10,282	10,854	6,020	3,990	68
Switzerland.....	2,381	-	-	-	-	-	-	-
United Kingdom.....	33,600	60,390	10,841	32,614	9,139	7,796	19,174	177
Australia.....5/	16,971	145,318	23,746	16,742	19,265	38,565	26,740	113
New Zealand.....16/	17,429	-	-	-	-	-	-	-

1/ Revised. 2/ Total production is estimated at 143,299,000 pounds in 1949. 3/ Total production. 4/ Less than a 5-year average.

5/ Estimated. 6/ Production year beginning July 1. 7/ Production year beginning April 1. 8/ Marketing year beginning August 1.

9/ Total cheese, and includes cheese made from the milk of sheep and goats. 10/ Includes farm cheese. 11/ Both bulk and case goods.

12/ For 1937 only. 13/ Total dried-whole and dried-skim milk for human consumption. 14/ Includes infants' foods, health beverages, etc.

15/ Production of dried-whole and dried-skim milk was 67,109,000 pounds in 1949. 16/ For 1938 only.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, U.S. Foreign Service reports, and other information.
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WORLD BUTTER AND CHEESE PRODUCTION IN 1949

Total butter and cheese output in principal producing countries increased considerably during 1949. Milk production in practically all countries gained during the year making available larger quantities for these factory products as the current effective demand for fluid milk, is quite well supplied, even in European countries where production was severely curtailed because of the war, according to information assembled by the Office of Foreign Agricultural Relations.

Though regulations concerning the production and marketing of butter and cheese have been relaxed, a few countries still maintain quite rigid controls and many countries are encouraging output by regulating prices paid to dairymen. Prices in most every country were encouraging to producers of butter and cheese although some declines have occurred. Considerable effort is being expended by dairymen in most countries to develop secure markets as the expressed demand is more nearly satisfied and low quality products are becoming difficult to market profitably.

World production of butter is now estimated at about 7,900 million pounds. This is approximately 8 percent larger than a year earlier, but is still only about 82 percent of prewar. Forecasts indicate the output for 1950 will approximate at least 90 percent of prewar. The largest increase in butter production during 1949 occurred in the United States which manufactures at least three times as much as any other reporting country. In 1949 United States production was about 77 percent of prewar. Other countries making important gains were Denmark, the Netherlands, France, New Zealand and Australia of which all but France are the major suppliers of butter for export. Gains of about 10 percent during 1949 over 1948 were common among European countries. More modest gains were made by most countries in other parts of the world and significant decreases occurred only in Canada, Argentina and the Union of South Africa. New Zealand, Sweden and the Union of South Africa are the only relatively important countries reporting butter production in excess of prewar.

Production of cheese in reporting countries is estimated to have increased about 15 percent during 1949 over 1948 and is now approximately 20 percent above the prewar output. There is growing interest in the

manufacture of cheese as a market for whole milk. It must be remembered, however, that the output of cheese requires but a fraction of the milk equivalent utilized for butter production and that in several countries "full milk" cheese represented a smaller percentage of total production than before the war which causes for some disparity when comparing with prewar output.

European countries, a number of which are above prewar levels, are making the largest gain in the manufacture of cheese. Countries making the largest gains are France, Italy, the Netherlands, and Sweden. A slight decline occurred in the output of Cuba, Greece, Argentina and the Union of South Africa. Particularly in the last two named countries the decline was caused by adverse weather and limited availability of pastures and feed.

The United States factory output of creamery butter was 16 percent above 1948 and the highest for any year since 1944. Total production of cheese during 1949 established a new high record. American cheese which was only slightly below the 1947 record accounted for approximately 80 percent of the total output. Swiss and Italian type cheeses, though somewhat less important, increased 14 and 17 percent respectively above the 1948 output. Sizeable stocks of both butter and cheddar cheese have been accumulated through the activity of the price support program in the United States.

Canadian butter production during 1949 was slightly less than the previous year, but still about the same as the prewar average. Stocks of butter at the end of the year, however, were considerably larger than at the comparable time a year earlier since the legalizing of margarine early in 1949 caused a decrease in butter consumption. The market prospects for cheese are somewhat better due to the United Kingdom contract, so some milk has been diverted from butter to the manufacturing of cheese which increased noticeably in 1949. Canadian cheese production heretofore had been steadily declining since 1945.

Cuban dairymen directed slightly bigger proportions of their output in 1949 to the manufacture of butter rather than cheese as they felt the domestic marketing prospects were somewhat better for the former product. Since before the war and up to 1947 the manufacture of cheese had made relatively large steady gains at the sacrifice of butter.

Argentina, the most important source of dairy products in South America, suffered from drier than usual weather during 1949. Stocks of both butter and cheese are estimated to be smaller than they were in 1948, as a result of the smaller production, even though exports have been slow. Uruguay probably could be an exporter of cheese, but the quality of much of the domestic product is not readily salable on foreign markets as it is not uniform in grade. Most of the other countries of South America have been encouraging milk production in an attempt to supply dairy products for domestic needs, but only minor progress has been made. Brazil possible has made the most significant advances.

Danish butter production increased 17 percent in 1949 over the previous year and is now about 86 percent of prewar. Cheese production which never fell below prewar levels during World War II, is now almost twice as large as during prewar. It must be remembered though that about only one-tenth the milk equivalent utilized for butter in Denmark is made into cheese. The Netherlands, another important exporter of dairy products, likewise made large gains in the output of both butter and cheese although production of butter was only approximately 77 percent of prewar while cheese production was about 4 percent above prewar in 1949.

Swiss output of cheese during 1949 was 5 percent above prewar as milk for manufacturing purposes has been officially diverted to cheese factories at the sacrifice of butter production. Butter output was only a little over one-half the prewar level. The production of Gruyere, Emmentaler and Sbrinz for export have been given priority in the hope of regaining prewar markets and a more favorable trade balance.

Italy is one of the few countries in which more milk is utilized in the making of cheese than for butter. The manufacture of both products is near prewar levels. The marketing of the butter output has not as yet been difficult, but slow export markets for cheese have caused much concern particularly in sheep grazing areas, as this type of milk is quite important in making special types of Italian cheese for foreign markets. Production of both products in 1950, however, is expected to continue upward.

Butter and cheese production in France increased about 10 and 17 percent respectively. The cheese output is now near the prewar level. The rapid increase in the manufacture of cheese has been somewhat at the sacrifice of quality, causing temporary losses, but much improvement is expected to take place in 1950. The prices paid for both butter and cheese are still at levels encouraging production. The government has recently indicated a program to support butter price.

Norway's output of butter in 1949 was 80 percent of prewar while cheese was 6 percent above the earlier years. About half of the Norwegian cheese is made of whole milk from cows, while almost an equal portion is made from goats' milk and small quantities of casein and whey account for the remainder of the production. Relatively large increases were made in the output of cows' milk cheese during last year.

United Kingdom's manufacture of butter and cheese during 1949 was only about one-half of the prewar output as controls directed most of the milk into fluid uses. Output of these products will be considerably greater in 1950, however, as there is a sizeable increase in the production of milk over comparable months in 1949. The Government has currently made possible more liberal uses for milk other than for fluid purposes, at least throughout the flush season. The United Kingdom production is reaching the point where officials must decide if they are going to continue to encourage production at present prices as the increases will now go mostly for manufactured products which must compete with imports of lower costs.

The production of butter and cheese as well as other manufactured dairy products in Belgium has been under rather uncertain conditions in the postwar period during the forming of the Benelux Union. The recent shift from import controls to subsidizing domestic production may provide more encouragement to producers. Butter production which is near prewar output is about one-half farm butter. Cheese production in Belgium is recovering from war-time deficits more slowly than almost any other Western European country.

Austrian farmers have been less enthusiastic about marketing their milk as butter, since legal channels have become relatively more remunerative as a consistent market. Thus a greater percent of the butter is being made in factories. Cheese was not marketed as extensively through black market operations and is only a fraction of prewar. Output of butter and cheese should increase considerably in 1950 as fluid milk is nearing a sufficient supply.

Dairying in Sweden has increased farther above the 1934-38 prewar level than almost any other European country. Butter output is estimated at about 23 percent above prewar levels and the manufacture of cheese is over twice that of 1934-38. The large gain in cheese has been partly due to the making of cheese of a lower fat content. In 1948 only 10 percent of the cheese was of full fat content. Much improvement has been made in 1949, but this percentage is not yet fully comparable to prewar. Prices of butter and cheese are being subsidized to consumers and increases in the manufacture of these products is indicated for 1950. A much larger percentage of the milk production is now being marketed as fluid milk and there is little production of farm butter or cheese.

Dairymen of Ireland have also increased the portions of milk produced that are delivered to creameries. Dairy authorities have been encouraging the production of cheese and other factory products at the sacrifice of butter since they are more readily sold on foreign markets. Domestic consumers have not been purchasing their full ration since allotments were raised to 8 ounces per week, even though the price is being subsidized to consumers.

Butter production in Oceania during 1949 was about the same as in prewar. Production in New Zealand during 1949 was 15 percent above 1948 which was 10 percent over the prewar level, while the output in Australia was above 1948 by about 6 percent and was still only 91 percent of the prewar output. Australian output of butter has been increasing steadily since the postwar low in 1945. The production of cheese in both countries is above prewar. New Zealand's output sharply increased in 1949 and Australian cheese production has been increasing gradually since before the war. The long term contracts for dairy products from both countries with the United Kingdom have provided an optimistic outlook for producers of both butter and cheese.

In Poland dairying is still in a rather difficult situation.

Butter production in India is of minor importance as ghee is the principal product. Approximately 65 percent of the milk is used in making this clarified fat product. The butter made in India is most often of low quality.

CHEESE: Preliminary estimate of production in specified countries in 1949,
with comparisons

Country	Average		1948		1949	
	1934-38					
	Factory	Total	Factory	Total	Factory	Total
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds
NORTH AMERICA						
Canada.....1/	125:1/	126:	94:	95:	118:	119
United States.....	643:	643:	1,094:	1,094:	1,190:	1,190
Cuba.....2/	3:2/	6:	7:3/	12:	5:3/	10
EUROPE						
Austria.....	- :4/	69:	9:3/	11:	17:3/	19
Belgium.....	- :4/	17:	- :3/	7:	- :	8
Czechoslovakia.....5/	55:	- :	24:	- :	31:	-
Denmark.. ..	69:	69:	123:	123:	136:	136
Finland.....6/	23:	- :	16:	- :3/	23:	-
France 7/.....2/	365:2/3/	584:	- :3/	440:	- :3/	540
Greece 8/.....	- :	129:	- :	85:	- :	58
Ireland.....	- :2/	4:	- :3/	6:	- :3/	7
Italy 7/.....	- :	524:	- :3/	430:	- :3/	485
Luxembourg.....	- :	1:	- :	1:	- :	-
Netherlands.....3/	200:	267:	177:	213:	238:	279
Norway 10/.....	39:3/	50:	30:3/	37:	46:3/	53
Sweden.....	71:	71:	114:	114:	144:	144
Switzerland 10/.....	- :	112:	- :	111:	- :3/	118
United Kingdom 11/.....	81:	109:	55:	57:	69:	73
SOUTH AMERICA						
Argentina.....	68:	- :3/	176:	- :3/	165:	-
Brazil.....9/	59:2/	92:	- :	- :	- :	-
Uruguay.....	- :2/	11:	- :	- :	- :3/	20
AFRICA						
Union of South Africa...12/	10:12/	11:	- :	19:	- :	17
OCEANIA						
Australia.....13/	48:13/	49:	93:3/	94:	101:3/	102
New Zealand.....13/	211:13/	211:	204:	204:	233:	233

1/ Year 1939 only. 2/ Year 1937 only. 3/ Estimated. 4/ Averages for years 1934-37. 5/ Averages for years 1933-36. 6/ Averages for years 1936-39. 7/ Made from the milk of cattle, sheep and goat. 8/ Made from the milk of cattle, buffaloes, sheep and goats. 9/ Averages for the years 1936-38. 10/ Made from the milk of cattle and goats. 11/ Excludes the output of producers outside the milk marketing scheme. 12/ Production year beginning September 1. 13/ Production year beginning July 1.

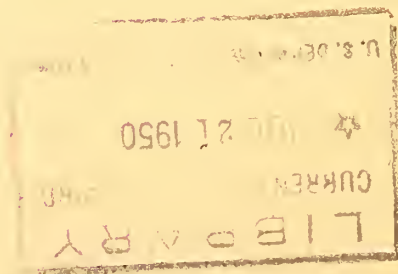
Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, United States Foreign Service reports, and other information. June 12, 1950.

BUTTER: Preliminary estimate of production in specified countries in 1949,
with comparisons

Country	Average		1948		1949	
	1934-38					
	Factory	Total	Factory	Total	Factory	Total
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds
NORTH AMERICA						
Canada.....1/	252:1/	348:	286:	350:	279:	334
United States.....	1,673:	2,178:	1,210:	1,509:	1,409:	1,692
Cuba.....1/	4:1/	4:	3:	3:	3:	3
EUROPE						
Austria.....	- :2/3/	51:	- :3/	47:	- :3/	48
Belgium.....4/	46:4/	156:	- :	137:	- :3/	149
Czechoslovakia.....2/6/	27:	- :	50:	- :	67:	-
Denmark.....	401:	401:	267:	267:	344:	344
Finland.....7/	69:3/7/	121:	43:3/	67:3/	53:3/	77
France.....8/	220:3/8/	529:	- :3/	380:	- :3/	430
Germany, Western.....	- :	661:	- :3/	525:	- :3/	605
Greece 2/.....	- :	13:	- :	9:	- :	6
Ireland.....	89:	149:	64:3/	109:	77:3/	122
Italy.....	- :	111:	- :3/	88:	- :3/	110
Luxembourg.....	6:	6:	6:	6:	7:	7
Netherlands.....10/	230:10/	239:	156:	156:	185:	185
Norway.....	25:3/	46:	20:3/	33:	24:3/	37
Sweden.....	151:	186:	198:	212:	216:	229
Switzerland 11/.....	- :	58:	- :	31:	- :3/	35
United Kingdom.....10/	54:10/	101:	19:3/	42:	24:3/	45
SOUTH AMERICA						
Argentina.....	66:	- :3/	75:	- :3/	66:	-
Brazil.....4/	51:4/	72:	- :	- :	- :	-
AFRICA						
Union of South Africa...12/	28:12/	41:	48:3/	61:	46:3/	58
OCEANIA						
Australia.....13/	415:13/	437:	355:3/	366:	378:3/	389
New Zealand.....13/14/	358:13/14/	376:	342:3/	355:	394:3/	407
Estimated world total 15/:	- :	9,600:	- :	7,300:	- :	7,900

1/ Averages for years 1935-38. 2/ Averages for years 1934-37. 3/ Estimated. 4/ Averages for years 1936-38. 5/ Averages for years 1933-36. 6/ Includes farm butter delivered to creameries. 7/ Averages for years 1936-39. 8/ Year 1937 only. 9/ Made from the milk of cattle, buffaloes, sheep and goats. 10/ Year 1939 only. 11/ Made from the milk of cattle and goats. 12/ Production year beginning September 1. 13/ Production year beginning July 1. 14/ One year, 1937-38 only. 15/ Includes product weight of ghee in those countries where ghee production is common, especially India, Turkey, Egypt and other Middle and Far Eastern Countries.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, United States Foreign Service reports, and other information. June 12, 1950.





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UNITED STATES DEPARTMENT OF AGRICULTURE
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MILK PRODUCTION AND UTILIZATION IN PRINCIPAL PRODUCING COUNTRIES IN 1949.

Milk production in practically every major producing country gained substantially during 1949 as feed supplies were much improved and prices were held at levels encouraging to dairymen according to information assembled by the Office of Foreign Agricultural Relations. Most of the increased surpluses were utilized for butter and cheese with only smaller increases in other uses.

European countries continued their recovery from wartime conditions. Particularly large increases occurred in the exporting countries. Milk production in Australia and New Zealand is up about 7 percent from last year. However, Australia is the only major dairy country reporting a smaller yield per cow in 1949 than during the previous year. Milk production in the United States increased considerably more than expected over 1948 while Canada produced about the same in 1949 as in 1948. All countries reported larger cow numbers during 1949 except the United States and Canada, but as yet the United Kingdom and the Netherlands are the only countries reporting cow numbers above prewar levels.

Roughage feeds were generally in sufficient supply in most countries and of better quality than in recent years and the moderate winter in many countries required less feed for cows than the past several years. Effects of the widely reported drought during the summer of 1949 were somewhat ameliorated by good fall pastures and the mild winter. Concentrate feed supplies still are limited in European countries as the domestic feed production is small and imports are regulated.

Milk prices are controlled in almost every country in some manner at levels favorable to milk production. In a few countries this situation has encouraged a larger output than consumers will buy at prevailing retail prices and surpluses at present price levels may confront additional countries. Prices to dairymen have weakened only slightly during 1949 and favorable cost-price relations exist in almost all countries.

Milk production in the United States during 1949 increased 3 percent over 1948 due to the all-time record yield per cow, as average cow

numbers were the smallest reported since 1930. A small increase in numbers this year apparently ended a decline of about 5 years. The total output of milk was only about 2 percent short of the record established in 1945. Returns to farmers were 15 percent less than in 1948, however, due to a drop in prices received. The greatest increase in utilization was for butter and cheese, while smaller gains were made in fluid consumption. Somewhat less milk than in 1948 was used for the manufacture of other whole milk products.

Canadian milk production remained about the same in 1949 as a year earlier even though cow numbers declined about 2 percent as the yield per cow continued to gain. Output per cow in Canada is now about 12 percent above the prewar levels. A larger portion of the milk supply went into cheese and somewhat more was used in fluid milk. Smaller quantities were utilized particularly for butter and also the manufacture of whole milk products. Butter production and consumption have been influenced by the legalizing of margarine in most of Canada and larger butter stocks are accumulating. Continuance of this condition into 1950 prompted the Government to announce recently a drop in the support price of from 58 to 53 cents per pound for butter and to begin requisitioning cheese of the United Kingdom contract stipulating a maximum of 85 million pounds of cheese.

Total Cuban milk production in 1949 is the highest since the immediate prewar years and is estimated at about 1.2 billion pounds as compared with 1.1 billion pounds in 1948 and 1947. Such production from an estimated 360,000 cows seems relatively low, but this number includes 600,000 dual-purpose animals which are milked only as long as they produce about 2 or more quarts daily over the amount taken by calves. Improved feeding and breeding practices on the more specialized dairy farms of western Cuba, however, are reportedly increasing the average production per cow. Milk production in 1949 was favored by price-cost relations relatively more favorable to milk than to beef production.

European countries exporting dairy products continued to make the most substantial gains in production during 1949.

The gain of 20 percent in Danish milk production during 1949 over the previous year went mainly into butter and smaller quantities into cheese, both of which were important export products. Likewise Dutch milk production increased 17 percent during the year and is about 4 percent above prewar. The quantities of milk made into cheese and butter were 31 and 16 percent respectively above 1948, as smaller increases were made in quantities of fluid milk. Per capita consumption of fluid milk, cream and cheese was above 1948, but butter decreased due to the relative availability of margarine. Slight price increases were granted

during the year as a result of wage increases. The outlook in the Netherlands is for further increases in cow numbers and milk production for domestic markets and exports in 1950.

The Swiss have continued to divert a substantial portion of their milk for factory purposes into the production of cheese by controlling the marketing of milk to provide a large quantity for export. The amount of milk allowed for butter permit much smaller production than necessary for domestic needs and sizable imports of butter from Denmark and the Netherlands are necessary. The quantity of milk for fluid purposes has been maintained about the same as in 1948. Per capita consumption during 1949 was higher for butter, about the same for fluid milk and decreased for cheese as compared with 1948. Competition for export markets will be more difficult for Switzerland now that they have to bid against countries which have devaluated their currency.

Italian milk production increased during 1949 and is estimated at about prewar level. There is no definite information on utilization of milk during the year, but they have encouraged milk for fluid purposes and for cheese. Italian cheese exports were approximately only one-half of prewar in 1949 and exporters are finding many hazards in an attempt to re-enter former European and United States markets with heretofore specialized types of cheese.

The reasons appear to be three-fold: (1) continued quantitative restrictions by the traditional European markets; (2) wartime inroads into the United States markets by domestic and Argentine products; and (3) relatively high prices of the Italian cheeses. The recent removal of minimum export prices, a decline in milk prices in 1949, and special efforts to improve quality will do much to offset some of these disadvantages. The per capita consumption of milk and dairy products in Italy still is somewhat below prewar due to limited facilities and an increase in population. The outlook is for a continuance of a larger output of milk which will provide more dairy products for domestic consumption and export in spite of lower prices.

The French milk production is now estimated at about prewar as it increased by about 17 percent during 1949 which was sufficient to end rationing by April 16, 1949, though ceiling prices have been maintained for fluid milk and butter. Cheese of mediocre quality is in large supply, but high quality products are still in strong demand. The relatively high prices which were calculated to encourage milk production have also had a limiting effect upon consumption and it is felt that some decrease in retail prices will be necessary soon to stimulate domestic purchases. France was a net exporter of cheese and sweetened condensed milk and a net importer of butter and unsweetened evaporated milk in 1949. The French Government has initiated a loan program to

provide modern pasteurizing equipment and to improve the quality of the product. In 1950 production is expected to increase and imports to be smaller, during which time the Government plans to operate a storage stabilization program along with current subsidy operations to stabilize the industry.

Non-exporting countries have progressed considerably in supplying domestic needs.

The supply of dairy products in the United Kingdom during 1949 increased considerably over 1948 as domestic milk production increased nearly 6 percent and larger quantities of both butter and cheese were imported. The greatest portion of the increase in milk produced is still utilized for fluid milk, but consumers are taking additional quantities much slower and most of the increases are now apt to be utilized for factory purposes. Restrictions on the purchase of fluid milk were relaxed during the flush season of 1949 and larger quantities were designated for the manufacture of butter and cheese. Fluid milk regulations have again been relaxed in 1950 and milk has been more generously designated for factory uses than in 1949. In fact there has been considerable discussion as to whether or not the smaller wartime facilities will be able to handle the milk during the flush season this year.

Milk output in Norway is now established at a level 16 percent above prewar. Considerable effort has been expended in dairying as farmers received about 40 percent of their receipts from this enterprise. A larger portion of the production is delivered to creameries than before, which makes the quantity available to non-suppliers even greater. Fluid milk, that utilized almost one-half of the total production, increased only 3 percent during 1949 which left a fairly large percentage increase for factory outlets. Farming practices that include expanded herd improvement work, increased mechanization, use of fertilizers and larger supplies of good roughage have tended to offset the shortage of imports of feed concentrates upon production.

Milk production increased approximately 6 percent in Belgium in 1949 over a year earlier due to more cows, but the dairymen are finding it difficult to meet Dutch competition. The Belgian Government will discontinue import fees on cheese and in turn will grant subsidies to producers of cheese, condensed and powdered milk.

Dairying in Austria made remarkable progress as a result of much improved indigenous roughage crops, good pastures, imports of feed concentrates under ECA and continued encouraging prices. More consumers received milk other than skim milk during the year than in any of the

past ten years. A larger portion of the production was marketed through legal channels than in recent years and black market activities have dwindled. There have been only minor reductions in controls, but rationing is more liberal.

Production of milk in Finland increased 17 percent during 1949 over 1948, but is still only 80 percent of prewar. Cow numbers gained by 3 percent and output per cow made extraordinary advancement. Supplies for per capita consumption of fluid milk, butter and cheese were quite comparable to prewar, but there is practically none for export. In 1938 Finland exported about 52 percent of its total butter output and 62 percent of its cheese production.

Irish production of milk was larger in 1949 than in the previous year and deliveries to creameries made more than comparable gains, due to a curtailment of home butter production. Domestic consumption requirements are generally adequately met by subsidized and rationed supplies, and exports are not large.

Milk production in Australia and New Zealand increased during 1949 over the previous years by about 6 and 3 percent respectively, which is a record output for New Zealand and was second in Australia only to the output during 1939-40. Cow numbers increased in both countries over 1948, but the yield per cow was higher than in previous years only in New Zealand. Both countries, however, now have the same relation to prewar in yield per cow although they have fewer cows than during the prewar years. Most of the increased Australian production was utilized in butter though this constituted only about 66 percent of the milk produced which is a smaller percentage of the output than in prewar years when about three-fourths of the milk was used to make butter. The manufacture of cheese and preserved whole milk products was at a record level and facilities for the latter are still being expanded. Consumption of fluid milk was estimated at 327 pounds per capita annually by Australians which is 35 percent above prewar. Larger quantities of cheese also were consumed, but as fresh cream is not regularly sold and butter is rationed at 6 ounces per week, the per capita consumption has been reduced. The prospects are for future increases in Australian milk production due to expanded extension activities by the Government, guaranteed prices to dairymen until 1952 and a large market through the United Kingdom contract.

Milk production in New Zealand also was at a record level with most of the increase going into butter and substantial quantities diverted to cheese. Like their neighbors, New Zealanders are consuming larger

quantities of milk and dairy products except butter, which is rationed at 8 ounces per week to provide as much as possible for export.

This is one of a series of regularly scheduled reports on world agricultural production approved by the Office of Foreign Agricultural Relations Committee on Foreign Crop and Livestock Statistics. For this report, the Committee was composed of Joseph A. Becker, Chairman, Floyd E. Davis, Charles C. Wilson, Jr., Regina M. Murray, Karon J. Friedmann, Lois B. Bacon and George H. Day.

MILK: Production and utilization in specified countries, 1949 (preliminary) and 1948

Country	Production			Utilization 1/						Other		
	Milk cows 2/ head	Production per cow Pounds	Milk production pounds	Fluid milk 3/ pounds	Butter pounds	Cheese pounds	Canned milk pounds	Million pounds	Million pounds	uses 4/ pounds	Million pounds	Feed pounds
1949												
Canada.....	3,620:	4,638:	16,789:	5,748:	7,767:	1,326:	562:	545:	841			
United States.....	22,741:	5,239:5/	121,962:	57,480:	33,835:	11,880:	6,830:	8,718:	3,219			
Austria.....	1,104:	3,695:	4,079:	1,800:	1,460:	192:	-	2:	625			
Belgium.....	900:	7,444:	6,700:	1,810:	3,870:	150:	9:	11:	850			
Denmark.....	1,537:	7,020:	10,789:	1,618:	7,706:	721:	172:	76:	496			
Netherlands.....	1,484:	7,823:	11,609:	3,612:	4,400:	2,400:	528:	228:	441			
Norway.....	799:	4,265:	3,408:	1,554:	974:	529:	-	6/	276			
Sweden.....	1,712:	6,155:	10,538:	3,576:	5,159:	849:	-	75:	752			
Switzerland 1/.....	839:	6,129:	5,214:	2,366:	735:	1,335:	-	202:	752			
United Kingdom.....	3,687:	5,809:	21,417:	17,129:	1,068:	826:	496:	398:	1,500			
Australia.....	2,340:	5,503:8/	12,877:	2,508:	8,443:	1,018:	294:	614:	-			
New Zealand 9/.....	1,747:	5,724:	10,000:	869:	6,694:	2,000:	-	160:	277			
1948												
Canada.....	3,701:	4,520:	16,730:	5,619:	8,164:	1,057:	627:	515:	748			
United States.....	22,933:	5,038:10/	118,353:	56,814:	30,134:	10,893:	8,203:	9,200:	3,109			
Austria.....	1,045:	3,278:	3,425:	1,555:	1,157:	111:	-	2:	600			
Belgium.....	850:	7,418:	6,305:	1,775:	3,663:	120:	8:	9:	730			
Denmark.....	1,472:	6,102:	8,982:	1,672:	5,981:	652:	119:	84:	474			
Netherlands.....	1,362:	7,256:	9,883:	3,427:	3,796:	1,832:	301:	86:	441			
Norway.....	768:	3,994:	3,067:	1,508:	860:	375:	-	6/	264			
Sweden.....	1,755:	5,585:	9,802:	3,552:	4,762:	593:	-	60:	710			
Switzerland 1/.....	809:	6,063:	5,038:	2,355:	616:	1,242:	-	75:	750			
United Kingdom.....	3,583:	5,634:	20,188:	16,109:	944:	619:	435:	566:	1,465			
Australia.....	2,267:	5,368:8/	12,169:	2,495:	7,915:	931:	293:	535:	-			
New Zealand 9/.....	1,714:	5,401:	9,263:	848:	6,231:	1,792:	-	130:	262			

1/ Includes farm uses. 2/ Includes, for the United States and Canada, cows kept mainly for milk, and for all other countries, cows producing over and above the requirements of the calf. 3/ Includes milk used for cream. 4/ Includes milk used for ice cream, dried whole milk, minor products, waste and balance. 5/ Total production is shown. Production on farms, - 119,136 million pounds. 6/ Includes canned milk. 7/ Production and utilization include goats' milk. 8/ Excludes milk fed to calves. 9/ Year ending June 30. 10/ Total production is shown. Production on farms, - 115,527 million pounds.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, United States Foreign Service reports, and other information.

MILK: Production and utilization in specified countries, 1934-38

Country	Production			Utilization ^{1/}						
	Milk cows ^{2/}	Production per cow	Milk production	Fluid milk ^{3/}	Butter	Cheese	Canned milk	Other uses	Feed	
	1,000 head	Pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	
Canada.....	3,816:	4,138:	15,789:	4,645:	2,197:	1,411:	273:	472:	791	
United States.....	23,933:	4,291:5/	105,416:	43,559:	43,729:	6,449:	4,607:	4,333:	2,739	
Austria ^{6/}	1,210:	4,630:	5,602:	3,068:	1,212:	661:	-	-	661	
Belgium.....	967:	7,022:	6,790:	1,433:	4,321:	163:	15:	42:	816	
Denmark.....	1,658:	7,047:1/	11,684:	1,433:	9,314:	331:	-	55:	551	
Finland.....	1,309:	4,268:	5,587:	2,556:	2,735:	205:	-	-	91	
Germany.....	10,076:	5,270:1/	53,100:	16,100:	28,100:	2,400:	-	500:	6,000	
Italy.....	3,456:	3,968:2/	13,750:	3,700:	2,700:	3,600:	24:	626:	3,100	
Netherlands.....	1,460:	7,658:	11,180:	2,321:	5,536:	2,291:	-	520:	512	
Norway.....	807:	3,660:1/	2,954:	1,124:	1,111:	489:	-	53:	177	
Sweden.....	1,322:	5,327:1/	10,238:	3,283:	5,170:	782:	-	44:	959	
Switzerland ^{10/}	902:	6,297:1/	6,041:	2,125:	1,497:	1,303:	-	49:	1,067	
United Kingdom.....	3,300:	5,583:	18,424:	11,100:	2,800:	1,008:	647:	686:	2,183	
Australia ^{11/}	2,545:	4,629:12/	11,780:	1,612:	9,466:	444:13/	258:	-	-	
New Zealand.....	1,807:	5,232:14/	9,454:	532:	6,922:	1,754:	-	57:	189	

^{1/} Includes farm uses. ^{2/} Includes, for the United States and Canada, cows kept mainly for milk, and for all other countries, cows producing over and above the requirements of the calf. ^{3/} Includes milk used for cream. ^{4/} Includes milk used for ice cream, dried whole milk, minor products, waste and balance. ^{5/} Total production is shown. Milk production on farms, -102,590 million pounds. ^{6/} For the year 1934. ^{7/} For the years 1933-1937. ^{8/} Includes canned milk. ^{9/} For the year 1938. ^{10/} Production and utilization include goats' milk. ^{11/} For the years ending June 30. ^{12/} Excludes milk fed to calves. ^{13/} Includes dried whole milk. ^{14/} Utilization of butterfat converted to milk equivalent on the basis of 4.5 percent fat content.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, United States Foreign Service reports, and other information.



FOREIGN AGRICULTURE CIRCULAR

OFFICE OF FOREIGN AGRICULTURAL RELATIONS
UNITED STATES DEPARTMENT OF AGRICULTURE
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DAIRYING IN SWITZERLAND

Contents

	<u>Page</u>
Cow Numbers.....	1
Milk Production.....	3
Marketing.....	4
Consumption.....	6
Trade.....	7
Stocks.....	9
Outlook.....	10

The Swiss dairy industry as a whole had a rather favorable year in 1949 in spite of the summer drought. The number of cows increased slightly, but the number of heifers is still below normal. Milk production also increased slightly, but is still below prewar. More milk was processed into butter and cheese, but the production of butter is still far below prewar, hence over 40 percent of the butter requirements were imported whereas about 25 percent of cheese production was exported. Exports of cheese are still below prewar levels.

COW NUMBERS

The number of cows in 1949 was 3.7 percent greater than reported in the 1948 census, as there was a relative decrease in the numbers slaughtered. The April 1949 livestock census reports there were 838,600 cows out of a total of 1,478,000 cattle of all kind. It is reported that since the 1949 census, the number of cows has further increased by some 20,000, but that the proportion of young stock is still below normal.

The factors contributing to a decline in slaughter of milk cows since the census of April 1, 1948, are mainly satisfactory milk prices and the expansion of grassland in the Midlands at the loss of plowlands. The slaughter of heifers also steadily declined and the shortage previously noted in this category was filled. Thus the postwar reconstruction of the Swiss

Prepared in the Livestock and Wool Division, OFAR, and based upon reports from P.G. Minneman and A.A. Stolipine, American Embassy, Bern, Switzerland.

herds made more progress than was anticipated after the results of the 1948 census were announced. One must not, however, forget that the remarkable increase in the number of cows is to a great extent due to the fact that farmers kept aged animals longer than usual, hence a larger proportion of old cows.

Prior to the war there was one cow in Switzerland for 4.6 inhabitants. At present there is one cow for 5.5 inhabitants. If the ratio of one cow for 5 inhabitants be taken as a reasonable Swiss average, there would need to be approximately 925,000 cows in order to cover indigenous fresh milk and dairy product requirements and also to allow for a fair cheese export. This would not result in over-production of milk and dairy products, as was the case in 1939, because account must be taken of the increased consumption of fresh milk and of dairy products.

Cow Numbers and Average Annual Yield

Year	1938-49	
	Number of	Yield
	cows Thousands	per cow Pounds
1938	913	6,393
1939	926	6,261
1940	910	6,195
1941	863	6,151
1942	824	5,886
1943	823	5,776
1944	814	5,556
1945	803	5,644
1946	817	5,644
1947	822	5,357
1948	809	6,063
1949	839	6,129

Cows in Switzerland are not divided as to beef and milk animals specifically developed to meet requirements in each of these categories. All Swiss cows are used both for milk and meat and some are used for plowing or for pulling carts. The two main breeds are the mouse-colored Schwyz (so-called Brown Breed), and the buff-and-white Simmental. Less known and numerically far less important are the black-and-white Fribourg or the Valais, dark brown cows (Hérens Breed). All, however, are bred for general purposes and are used as milk cows.

As a whole there was adequate forage and imported concentrated feed in 1949. Grazing conditions were abnormal in 1949. The early hay crop was good and plentiful, but the later hay crop did not materialize owing to severe drought. A warm autumn with sufficient rainfall, however, allowed for grazing very late in the season. Concentrated feeds were available at moderate prices.

MILK PRODUCTION

The per cow yield reported in the "Milchstatistik de Schweiz" published by the Secretariat of the Swiss Farmers' Union, is calculated on the basis of data submitted by those farms which kept books under the Farmers' Union control. These are better managed farms and their average milk yield is about 20 percent above the average for all of Switzerland as reported in another publication for the Farmers' Union (Statistische Erhebungen und Schätzungen aus dem Gebiete der Landwirtschaft).

The milk yield also varies with the size of the farms. If the 1937-47 average milk yield in small holdings of three to five hectares ^{1/} is taken as 100, the index for larger farms varies as follows on farms that kept Farmers' Union records.

<u>Size of Farm</u> <u>hectares</u>	<u>Milk Yield</u> <u>index</u>
3 - 5	100.0
6 - 10	106.0
11 - 15	109.9
16 - 30	113.2
over 30	116.4

The yield of animals listed in the Swiss Herd Book is naturally still higher. It is about 8,669 pounds a year in the case of the Brown (Schwyz) Breed and averages around 8,818 pounds in the case of the Simmental cow.

According to estimates of the Central Union of Swiss Milk Producers, the total domestic production of fresh fluid milk in 1949 exceeded that of 1948 by about 3.5 percent.

The total of the fluid milk consumed commercially plus the milk processed represents what is commonly termed "commercial milk" in Switzerland. In 1949 this total amounted to 3,657 million pounds as against 3,477 million pounds in 1948, 3,091 million pounds in 1947 and 4,120 million pounds in 1938.

Final figures covering the entire production of butter and cheese are not available, but estimates are prepared annually by the Swiss Farmers' Union. The utilization of whole and skim milk in the production of other products such as condensed, canned and dried milk, is indicated in the following table, and data are available on the quantities made of these products. More skim milk is used in the manufacture of casein than in the above-mentioned products.

^{1/} One hectare equals 2.471 acres.

Milk Production and Utilization,
Average 1934-38. Annual 1946-49.

Year	Milk		- Utilization -				
	production:	Fluid	Butter	Cheese	Canned	Other	Feed
	1/	milk 2/			milk	uses 3/	
	Million	Million	Million	Million	Million	Million	Million
	pounds	pounds	pounds	pounds	pounds	pounds	pounds
1934-38 av:	6,041	2,125	1,497	1,303	4/	49	1,067
1946	4,762	2,180	877	937	33	29	706
1947	4,541	2,183	737	915	34	33	639
1948	5,038	2,355	616	1,242	19	56	750
1949	5,214	2,366	735	1,325	4/	28	750

1/ Includes goats milk. 2/ Includes milk used for cream. 3/ Includes milk used for ice cream, dried whole milk, minor products, waste and balance. 4/ Included under "Other Uses."

MARKETING

The Swiss Dairy Industry, following the abolition of rationing was re-organized along lines similar to those before the war, the control being in the hands of the Central Union of Swiss Milk Producers for milk, of the Swiss Cheese Union for cheese, and of the "Butyra" for butter. Since 95 percent of all owners of cows are members of the Milk Producers' Union, when the latter issues instructions as to the utilization of milk such instructions may well be considered as actually regulating the Swiss milk production. One such instruction was issued in December 1949 and is currently in force since January 1, 1950 and until further notice. Its text is as follows:

"As milk deliveries during the last weeks have unexpectedly declined, and in view of the fact that the Swiss Cheese Unions' 1949-50 campaign foresees a certain shortage of cheese, especially of Emmentaler cheese available for export, the Executive Committee of the Central Union of Swiss Milk Producers has decided to alter the 1950 production program as follows:

"1. Should consumption of fluid milk decline, such cheese plants, (i.e. plants having the obligation to rush their milk reserve to towns which happen to be short of milk instead of producing cheese out of this milk) which are in a position to produce normal weight and superior quality Emmentaler will be exempt from the obligation of furnishing emergency milk (lait de secours). Manufacture of small size hard cheese (Schnittkäse), including half-fat and Gruyère shall be tolerated

outside regions where they are usually produced, only if this has been the case during the past years and provided such cheese is of good quality. Every exception to this rule shall be subject to a formal authorization of the competent milk federation.

"2. Manufacture of 'Floralp' (the standard Swiss high quality pasteurized cream butter) and of ordinary butter made after centrifuging milk, after January 1, 1950, shall be limited to 100 percent and not to 150 percent as heretofore of the volumes produced during the preceding year. Butter producers (Butterzentralen) which can reach the 100 percent production only through obtaining cream from enterprises which, according to provisions under paragraph 1, should produce cheese, are exempt from producing butter according to plan."

It is to be noted in the first place that the Union believes that consumption of milk may decrease. This, in turn, would permit cheese manufacturers to discontinue the practice of delivering fluid milk from the supply allotted to them from producing cheese. On the other hand the manufacture of Gruyère will be limited strictly to regions which can produce Gruyère worthy of its name. The reason why a further increase of the production of Gruyère is not encouraged lies in the fact that while there was a shortage of this kind of cheese during the last eight years, its manufacture has increased considerably in 1949 and the stocks of Gruyère are now slightly higher than the prewar average. Many manufacturers have shifted to the production of Gruyère against warnings of the Cheese Union and the quality of such Gruyère was often far below the required standards.

Since butter had to be imported and the volume of Emmentaler produced for export is still low, it was thought that the utilization of milk for manufacturing mediocre quality Gruyère was wasteful. Producers, hereafter, will concentrate on Emmentaler and possibly Sbrinz cheese. Should the volume of milk at the disposal of these cheese factories not be sufficient to produce heavy Emmentaler wheels, they will have to produce butter until more milk is available in the spring months.

The devaluation of certain European currencies besets the Swiss dairy organizations with problems which will have to be solved. Butter imports cover approximately one-third of the Swiss consumption, the bulk coming from Denmark and, owing to the devaluation in that country, at much lower prices than heretofore. However, as domestic prices for butter have remained unchanged, there is some concern as to where the benefit is going.

Butter Production
Annual 1939, 1945-49.

Year	Total production 1,000 lbs.
1939	59,083
1945	40,124
1946	43,210
1947	34,612
1948	30,644
1949	34,833

Cheese Production (by types)
Annual 1939, 1945-49.

Year	Emmentaler: 1/ 1,000 lbs.	Alpine 2/ 1,000 lbs.	Soft cheese 3/ 1,000 lbs.	Skim milk 4/ 1,000 lbs.	Herb 5/ 1,000 lbs.	Total cheese production 1,000 lbs.
1939	89,507	9,480	9,921	5,070	882	114,860
1945	55,997	11,684	10,362	15,873	1,323	95,239
1946	49,604	11,905	11,684	18,739	882	92,814
1947	55,115	11,244	14,109	8,377	882	89,727
1948	75,397	11,464	17,857	5,291	882	110,891
1949	-	-	-	-	-	118,167

- 1/ Includes Gruyère and Sbrinz.
- 2/ Includes cheese one-half fat.
- 3/ Includes semi-hard and paste cheese.
- 4/ All types.
- 5/ A cheese product in Glarner Canton. (Also called "Glarner" cheese).

CONSUMPTION

Total consumption, by farm and city of fresh fluid milk, increased slightly in 1949 owing to growing urban consumption, but still is far below the prewar figures and even somewhat below war-time consumption. During the war milk represented an important element of ration while the butter ration was comparatively small.

Cheese consumption was high in 1948, but declined in 1949 partly because prices declined for eggs and meat, especially the cheaper cuts and cheaper kinds of sausage. In Switzerland sausages are an important part of the worker's diet and if these are cheap he prefers them to cheese.

The consumption of butter varies considerably from year to year. It increased somewhat in 1949, but is still below prewar.

The per capita consumption for several five-year periods since 1926 and for the years 1946 through 1949 are as follows:

Per Capita Consumption of Fresh Fluid Milk,
Butter and Cheese, 1926 -45,
Annually 1946 to 1949.

Period	Fluid Milk	Butter	Cheese
	Pounds	Pounds	Pounds
1926-30	613	12	20
1931-35	564	14	18
1936-40	536	14	19
1941-45	525	10	21
1946	494	10	20
1947	482	14	18
1948	509	11	19
1949	516	13	18

1/ Unofficial estimates.

SOURCE: Swiss Farmers' Union.

The fear of infection from milk is decreasing as bovine tuberculosis in many regions has been practically eliminated and as milk may be infectious only at lower altitudes. The danger of contamination in cities is avoided largely by boiling milk and the prejudice against fresh milk is reported to be decreasing. Pasteurized milk can be obtained readily in the larger cities and towns at a cost of 19 cents a pint. Of course a quart of ordinary milk usually retails for about 10 cents, the difference amounts to 9 cents per quart which is appreciable.

TRADE

Exports during 1949 consisted principally of 27,734 thousand pounds of cheese and 7,511 thousand pounds of condensed milk. Condensed milk exports continued at about the same rate as in 1948, but far below prewar. Exports of hard cheese in wheels and also of processed cheese in cartons increased substantially, but was still below the prewar level.

Most of the exports of condensed milk were shipped to the Philippines (34 percent) and Germany (32.6 percent), while in 1948 exports were more

evenly distributed and prewar figures (1937) included heavy exports to Indo-China which does not appear any more on the list of Swiss clients.

Exports of hard cheese in wheels doubled in 1949. This increase is a result of the policy of the Swiss dairy organizations which forced the production of export cheese, especially of Emmentaler. Since there was not sufficient milk to cover the consumption of fluid milk and allow both for the production of cheese and butter, the production of the latter was kept low as was the case in previous years, which is responsible for comparatively heavy imports of butter.

Imports and Exports of Milk and Dairy Products
in 1937, 1948 and 1949.

Products	Imports			Exports		
	1937	1948	1949	1937	1948	1949
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
Milk:						
Fresh	17,652	5,414	8,128	285	736	421
Condensed	7	3,743	190	12,778	7,930	7,511
Cream	33	24	84	62	-	35
Butter ^{1/}	5,624	19,636	24,083	7	1,532	55
Cheese:						
Soft	2,405	1,667	1,711	15	10,512	498
Hard	1,146	1,237	902	30,933	10,351	19,464
Processed	-	-	-	6,429	4,916	7,396
Other	4	33	75	388	337	375

^{1/} Imports and exports of salted melted butter were insignificant in 1937 and 1949, but amounted to 31 thousand pounds and 340 thousand pounds respectively in 1948.

SOURCE: Swiss Customs Statistics.

Processed cheese in cartons, another Swiss export, was shipped in 1949 to various countries. The United States and Belgium-Luxemburg each were destinations for about 23 percent. Total exports of this cheese increased by one-third as compared with 1948. More processed cheese could be exported if it were not for the priority given to Emmentaler and Gruyère, particularly the former.

The only important Swiss import item among dairy products is butter, the imports of which amounted to 24,083 thousand pounds in 1949, an increase of 22.5 percent over 1948. Only 2,687 thousand pounds of cheese were imported in 1949, mostly of special types. Trade in milk is of small interest. Imported milk is largely from French farms to supply Geneva with milk for fluid consumption since this city is near the border.

Half of the fresh butter imported in 1949 was of Danish origin and 36 percent was from the Netherlands. In 1948 the proportions were 72 percent from Denmark and only 17 percent from the Netherlands. Before the war a considerable part of imports of butter were from Baltic countries. Butter production, imports and consumption has increased. In the case of cheese, production, imports and consumption were all at about prewar levels, but exports were still low, although above those for 1948. Stocks of hard cheese on January 1, 1950 were almost equal to a year's export.

STOCKS

Stocks of cheese comprise cheese subject to obligatory delivery and do not contain stocks of soft cheese in the hands of wholesalers, however, the latter stocks cannot be large. Similarly, stocks on farms (also small) are not included.

Butter stocks comprise butter held by the "Butyra" and Butterzentralen (butter plants) and do not include stocks of wholesalers or farmers.

Stocks of Emmentaler cheese are still some 3,307 thousand pounds lower than the prewar average, but it is reported from circles of the Cheese Union that stocks of Gruyère cheese which were very low on January 1, 1949, reached the prewar normal stock average by January 1, 1950.

Stocks of Cheese and Butter as of January 1,
years 1946-50.

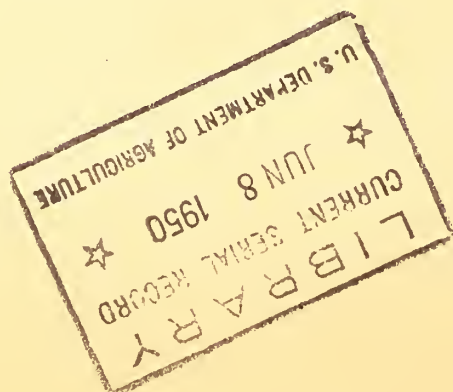
Year	Cheese	Butter
	<u>1,000 lbs.</u>	<u>1,000 lbs.</u>
1946	23,126	1,292
1947	20,289	4,473
1948	19,797	16,038
1949	16,645	5,512
1950	22,659	3,748

SOURCE: Swiss Farmers' Union for the years 1946 through 1949; Central Union of Swiss Milk Producers for 1949 and 1950.

The April 1949 census showed a decrease in the number of heifers of over two years which are still below the normal requirements. Moreover, a new low was recorded in the number of young heifers from one to two years. It is probable, therefore, that the number of young cows for dairy purposes will be below normal at least until the end of 1950.

With a slight increase in the number of cows and assuming that weather conditions will be normal in 1950, a further slight increase in the production of milk and consequently in that of cheese for export is anticipated. This causes some worries to the Division of Agriculture because while more cheese could be exported, it will be difficult in 1950 to obtain profitable prices in the case of exports to Belgium which, since January 1, 1950, has increased its import duty on cheese. Similarly, exports to France, the United Kingdom and Italy have to cope with countries which have devaluated currencies. If, for these reasons, exports of cheese were to decline in volume, production will have to be shifted to butter, which is not in the interest of the State and dairy organizations, since the more profitable and traditional Swiss dairy export is hard cheese in wheels.

It is considered possible that prices of milk will remain stable throughout the year, which, in turn, will result in stable prices for butter and cheese. Even if prices for imported butter decline, this will hardly affect consumer prices of butter, since the margin will find its way to the compensation fund. However, this subject is still debated and consumers are strongly opposed to the utilization of import savings made by the "Butyra" for purposes other than reducing consumer prices. At any rate, money derived from imports of cheaper fresh butter from Denmark and the Netherlands is used to keep milk prices low in large cities such as Zürich and Geneva. Geneva has no "milk hinterland" of its own and were it not for the Milk Compensation Fund, Genevese would have to pay about one cent more per quart of fresh fluid milk.





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FOREIGN MARKET NOTES--DAIRY PRODUCTS

Outlook for Imports of United States Dairy Products In Netherlands West Indies Markets 1/

By George H. Day

Summary

Prospects for U. S. dairy products in the Netherlands West Indies have grown steadily worse since the United Kingdom and the Netherlands devalued their currencies and Dutch, Danish, and British Empire dairy products have become generally more available. Not only has devaluation resulted in a growing disparity between prices of U. S. products and those of Holland, Denmark, New Zealand, and Australia, but there has been an admitted policy on the part of a few distributors to import merchandise from the Netherlands and other soft-currency countries, even where U. S. prices are comparable, in an attempt to conserve dollar exchange. There have been no restrictions on exchange, however, and most dealers will continue to purchase some U. S. products where prices are substantially the same, or where there is a decided preference for our products.

Nearly all food supplies in these Islands have to be imported since agriculture is not only extremely limited, but continues to decline under pressure of high wages and excessive water costs. Although there has been a slight increase in cattle numbers, the production of milk is insignificant.

For many years consumption of dairy products has been heavily influenced by Dutch tastes and, with the growing availability and low prices of the Netherlands dairy products, that country is rapidly regaining its historical dominance of the market for several items.

1/ One of a series of preliminary reports of a study of market outlets for United States dairy products in Caribbean and Latin American countries conducted under the provisions of the Research and Marketing Act.

Another factor which will tend to maintain imports from the Netherlands and other non-U. S. sources is the fact that while Venezuelan crude oil shipments to Curacao refineries, largely British and Dutch owned, may be maintained for at least several months, shipments to Aruba refineries, which are predominantly American probably will be reduced. As noted in the report on Venezuela, this possibility is due to the voluntary reductions in the oil production of American owned companies in an attempt to forestall higher U. S. tariffs or restrictions on imported oil. Any reductions in force on Aruba probably will affect U. S. and other labor not native to these Islands. Any reductions in income from this cause would not only affect U. S. exports directly, but would intensify a recently reported trend toward buying products largely on a basis of price considerations. Even though incomes remain at or near 1949 levels, and the total volume of dairy product imports continues to be substantially the same, the effect of the growing disparity between prices of U. S. dairy products, maintained by price support activities, and those of soft currency countries whose prices have continued to decline, will continue to be the predominant factor in the loss of this market to U. S. producers. This trend was in evidence in the closing months of 1949.

Salient Points in the Immediate Business Outlook

The economic life blood of the Netherlands West Indies is oil which, directly or indirectly, gives strength to most other elements in the economic structure. The refining of Venezuelan oil and immediately related activities gives employment to about 19,700 native and imported workers on Curacao and Aruba. Wages are good and the oil companies have inaugurated a number of effective benefits and welfare services for the workers.

The oil refineries on Curacao, which are predominantly owned by a large British-Dutch concern, probably will continue to operate at about the same high rate as in 1949 though possibly below the peak rate established in 1948. This company is expanding its Venezuelan production under a reported action giving it special rights to the oil market in soft currency areas under British and Dutch influence. While there is some question as to the extent of this expansion, and an agreement between this company and the Venezuelan Government will continue to divert some oil to the company's refinery on the Venezuelan peninsula of Paraguana as was done in 1949, it seems reasonable to suppose that Curacao operations will not be appreciably different from those in 1949. This company employs about 11,000 workers, of which 7,000 have been imported.

Activities in the shipping, construction, mining and service industries of Curacao also probably will continue at about 1949 rates for several months. In the shipping industry, refuelling, the furnishing of supplies, the transshipment of oil and the repairing and servicing of ships should continue to employ a large segment of the population. In the construction

industry, port and harbor work is expected to continue on a large scale and both public and private building is expected to progress well into 1950. A phosphate mine has been favored by a large quantity of high grade deposit on Curacao. Employing over 350 laborers, this mine has increased its production and looks forward to continued activity. The service industries, including the accommodation of tourists, probably will continue at least as active as in 1949.

Most of the minor manufacturing industries appear to be meeting with only moderate success, or less, due to the cost of labor and raw materials, the low price of competing imported finished goods, and some decline in the export markets for finished products.

While there were no reductions in the labor force at oil refineries in 1949, other than a policy of not replacing those who left voluntarily and for other reasons, it seems likely that at least a moderate reduction from the 8,700 employed on Aruba will occur in 1950. This possibility is due to the voluntary reduction of oil production among American owned companies in Venezuela which occurred early in 1950 in an attempt to forestall possible U. S. restrictive action on imported oil. Since most of this number is employed by a large American oil company, any reduction in force probably will be largely of U. S. and other labor not native to Aruba. This probably will mean a greater reduction in the demand for U. S. dairy products than would occur if the reductions were proportional among all labor on the Islands.

In October of 1948, the exchange control authorities removed all exchange restrictions for several import items including dairy products, and although the largest companies have been buying with soft currency, when possible, to conserve dollar exchange, the situation has continued reasonably easy, with adequate dollars available for U. S. dairy products since that time. Credits have continued fairly easy and collections for the most part have been satisfactory. Although the balance of trade appears unfavorable, it is offset by imports of capital, receipts from shipping and ships' services, the tourist trade and similar factors. While the United States was the principal supplier in 1949, at least part of her predominant position will be lost in 1950 due to the effects of devaluation.

Characteristics of the Netherlands West Indies Market for Dairy Products

Import duties on dairy products are for revenue only, and amounting in most cases to 3.3 percent ad valorem (including a 10 percent surtax), constitute little hindrance to imports. No country is accorded preferential treatment.

The islands of Curacao (population 91,500) and Aruba (48,000) account for about 99 percent of total exports and 98 percent of total imports of the Islands. The distribution of foodstuffs in Curacao is unique in many respects. It is a rather small area geographically and it would be extremely difficult to classify dealers by type of operation between agents, wholesalers and retailers. Most agents find it necessary to some extent to operate as wholesalers, serving the needs of the many small shops throughout the Island. Many wholesalers have retail outlets and some dealers combine the function of all three. It is also difficult to classify dealers by type of goods handled. Most wholesalers operate on a rather small scale and some distribute a range of merchandise varying from heavy durables (refrigerators) to perishable foodstuffs. In small retail stores, however, the character of the merchandise is a little more homogeneous.

Two distributive organizations, each subject in a different degree to the policies or direction of the major oil company on Curacao, have achieved some prominence in the distribution of foodstuffs and other merchandise. While one of these organizations was established to operate commissaries solely for the company's oil workers, the other, a branch of an English distributor, operating self-service type stores, serves non-employees as well. These organizations were among the first to reduce retail prices following devaluation and are now believed to do about 25 percent of the retail food business on the Island. While they handle a relatively full line of dairy products, they follow the general policy of buying dairy products from the Netherlands and other soft currency countries.

In general, there appear to be no difficulties relating to importing dairy products. Foodstuffs from the "dollar" countries of North, Central, and South America do not require import licenses.

The Outlook by Commodities

A. Ice Cream. Most of the ice cream in Curacao is made by 3 medium and large distributors using modern equipment. All 3 companies distribute wholesale in metal containers to restaurants, soda fountains and candy stores, and sell at retail in paper cups from wagons and cycle carriers. One manufacturer also operates two ice-cream parlors. Since fresh milk is very limited, all ice cream must be reconstituted either from dry ice-cream mix, which is apparently used most commonly, or from other dried and canned milks. Imports of dry ice-cream mix from the United States have averaged more than 200,000 pounds annually in the last three years. With the sharp decline in prices of most ingredients from other countries some decline in U. S. exports of dry ice-cream mix to this market are anticipated.

There are no ice cream manufacturers in Aruba.

B. Dry Whole Milk. Approximately 1 million (estimated net) pounds of dry milks, nearly all of which was dry whole milk, were imported to the Islands in 1948. Virtually all of this milk was imported from the United States. Aruba, where dry whole milk is reportedly becoming increasingly popular, accounted for approximately 60 percent of the 1948 imports. Small but significant shipments of dry whole milk were received from the Netherlands at about the end of 1949 and U. S. exports of 782,000 pounds in 1949 showed a decline from a year earlier. That imports of this product have been increasing in recent years is indicated by U. S. exports through 1948, however. The principal uses are reported to be: (a) baby feeding, (b) home beverage use and (c) supplying ships. This milk apparently enjoys rather general distribution, being used in many low income homes not equipped with refrigerators. The milk is imported in the usual sizes of 1-, 2½-, and 5-pound cans. It is preferred in wooden or solid fiber cases, since it is subject to rough treatment and the import duty is on an ad-valorem basis rather than on gross weight.

Retail prices for dry whole milk in 1-pound cans have generally been about 90 cents (U.S.) per can. A recent trial shipment of a new and reportedly successful dry whole milk from the Netherlands has been sold at a retail price about 40 percent lower. However, since information is not available as to the price that will be established on regular sales of this product nor the extent of shipment that may be forthcoming, it is difficult at present to evaluate the effect of this competition upon sales of the American product. It seems likely, however, that these Islands will continue to represent a market for about 1 million pounds of dry whole milk annually from all sources.

C. Nonfat Dry Milk Solids. Imports of this product have been small. United States, the principal supplier, exported 33,000 pounds in 1948 and about 81,000 pounds in 1949. The principal uses for this product have been in baking and the manufacture of ice cream. Very little has been used in relieving for fluid purposes, and apparently none in the relatively limited low cost and school lunch feeding programs. Although there is a possibility of some expansion from these uses, the extent of such expansion probably will be rather limited. There is only a relatively small amount of unemployment in Curacao and Aruba, and a fairly wide distribution of evaporated and dry whole milks.

D. Milk Base Baby Foods. There are no separate import data available for this class of product. U. S. exports to N.W.I. have shown a gradual but unimpressive increase in recent years. Such exports in 1949 amounted to 98,000 pounds.

E. Evaporated Milk. Slightly over 5 million (estimated net) pounds (slightly less than 120 thousand cases) of evaporated milk, most of which originated in the United States, was imported to N.W.I. in 1948. Imports from Canada, the Netherlands, and Australia, which were unimportant in 1948, have since become a predominate factor in Curacao supplies. U. S. exports to N.W.I. which amounted to about 5 million pounds in 1948, declined to about 4.4 million pounds in 1949, and are believed to be declining still further in 1950.

Evaporated milk is reported to be used fairly generally and U. S. exports suggest a gradual increase in recent years. Some distributors report the 6-ounce can to be the most popular because of the general lack of home refrigerators. The 14 $\frac{1}{2}$ -ounce can also enjoys considerable popularity and there has been a recent increase in sales of Australian milk packed in 16-ounce cans. Prices of this commodity are followed closely both as to the general level and as to prices between brands, of which there appears to be no one make outstanding. Some dealers have reported a tendency for the milk to get thick when held in storage and there has recently been a policy of more rapid turn-over of this product.

Most distributors emphasize the growing price competition from Canadian, Dutch, and Australian suppliers and have started diverting their purchases to these sources. Canadian milk is reported to be about 10 percent cheaper than that from the States and increasing amounts are being imported from Holland and Australia. The prospect for maintaining U. S. exports of evaporated milk at anywhere near the volume which moved in 1948 and 1949 appears slim.

F. Condensed Milk. Approximately 250,000 (estimated net) pounds of condensed milk, about 60 percent of which originated in the United States, was imported to the N.W.I. in 1948. The United States exported approximately 513,000 pounds to N.W.I. in 1949. Holland, which was the second in importance in 1948, appears to be gaining relative to the U. S. as a source of imports for this market.

The market for this product, used principally in supplying the shipping trade and to a less extent the consumer market, both in Curacao and Aruba, is relatively limited. Largely due to price considerations, Dutch milk is expected to account for a continually increasing part of the limited market for this product.

G. Cheese. Approximately 1,100,000 (estimated net) pounds of cheese of all types were imported into Curacao and Aruba in 1948. Based on U. S. exports in that year, about 18 percent was from the U. S., the Netherlands being the principal supplier. Dutch cheese, principally Gouda and to a lesser extent Edam and Loyden have enjoyed a predominant position in the

N.W.I. market for many years. While this position was challenged by other cheese, principally from the United States during the war and the immediate postwar years, Dutch cheese is rapidly regaining its old position, favored by the predominance of Dutch tastes and the rapidly growing disparity between U. S. and Dutch prices.

Dutch Gouda, now recognized as accounting for most of all cheese sales, is generally packed, 4 cheeses of 8-10 pounds each, in a wooden box. Reportedly hard, containing generally about 45 percent butterfat, it is waxed, often wrapped in bladder and is covered with cellophane. It is well aged and will keep unrefrigerated for about 6 months. In most stores, it has been retailing at about 80-85 cents (U.S.) per pound (compared with prices of around \$1.00 per pound for U. S. American, natural and processed, packed in 5 pound loaves). A reported recent price decline in Dutch Gouda undoubtedly will widen this differential. Edam cheese, averaging about 40 percent fat, is generally recognized to be a poor second to Dutch Gouda in popularity.

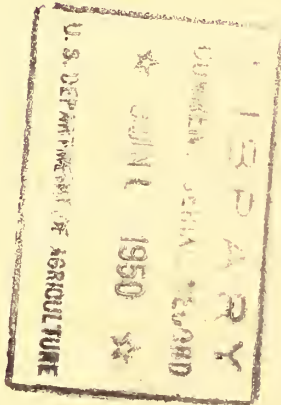
American natural or processed cheese, packed mostly in 5-pound loaves, appears to be running a close race with Dutch Leyden for third place, although the former is reported to be still one of the more popular cheeses in /ruba. American cheese appears to have a small but steady market among Barbadoans, English speaking Chinese and other foreigners, even at retail prices 20 to 25 percent above Gouda. However, the growing price differential and the necessity of providing coolers for this product probably will prevent any increase in its sale for some time.

While a small amount of Australian cheese also has found its way into this market, Swedish and Danish cheeses are unknown. There is very little demand for large Swiss wheels, and blue-type cheeses are neither understood nor liked. Most specialty-type cheeses and cheese spreads are expected to continue to be of minor importance.

H. Butter. Approximately 1,500,000 (estimated net) pounds of butter, about 12 percent of which originated in the United States, were imported to the Netherlands West Indies in 1948. Most of the butter was supplied by the Netherlands. Imports from Argentina, New Zealand, and Denmark accounted for less than United States shipments. U. S. exports in 1949 amounted to 200,000 pounds. Although apparent per-capita consumption of butter is about the same as for the United States, it should be remembered that an undetermined part of this is used in ships' supplies. Most of the butter for these islands is imported in tin.

The outlook for maintaining United States exports of butter into this market is poor. United States butter is reportedly undersold by Dutch, Danish, and Argentine butter, and prices for New Zealand butter, which is

sold under quota to a few dealers, are reportedly somewhat lower. Both wholesale and retail distributors have virtually discontinued purchases of United States butter. In addition, with prices an important factor, a significant number of consumers have reportedly turned to margarine. This product, packed in 25-pound tins, is imported in sizeable quantities and is ladled out to consumers in paper or in buyers' own containers at prices somewhat lower than for butter.





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DAIRYING IN CZECHOSLOVAKIA

Contents

	<u>Page</u>
Cow Numbers.....	1
Milk Production.....	3
Milk Deliveries.....	4
Consumption.....	6
Foreign Trade.....	7
Feed Situation.....	8
Outlook.....	8

The dairy industry of Czechoslovakia made substantial gains during 1949 due mainly to a much improved feed situation, but milk production is still considerably below prewar.

It is still a common sight in Czechoslovakia to see housewives waiting in queues with their milk pitchers and small milk pans to get their milk ration. This is partly due to the method of distribution, but it also shows that a shortage of milk still exists. The ordinary consumers received only one-eighth of a quart per day in 1949 and this was standardized at a low fat content. Cream is a rare luxury enjoyed only by the most fortunate. One of the most frequent complaints about the Czechoslovak food rations today is the short supply of dairy products. This explains why agricultural planners stress the necessity for more milk cows and point to the disastrous 1947 drought and the toll of cows taken by the war as the reasons for shortages.

COW NUMBERS

Milk cow numbers in Czechoslovakia have increased steadily during the past two years but are still slightly lower than before the drought in 1947. According to an official report, the number of cows on July 1, 1949 was 1,907,000 head, of which 1,354,760 were said to be in the Czech Provinces and only 552,240 in Slovakia. The number of cows on January 1, 1950 was not officially reported, but it is estimated by competent observers at about 1,921,000 head.

Prepared in the Livestock and Wool Division, OFAR, and based upon information from Robert N. Anderson, Agricultural Attache, American Embassy, Praha, Czechoslovakia.

During the 1934-38 period the average number of cows in Czechoslovakia were 2,384,000 head. According to the first census taken after hostilities ended, July 1, 1945, the number amounted to slightly over two million cows, a reduction of about 16 percent. During 1945 and 1946 there was a slight increase in the number of cows, but the 1947 drought and the shortage of fodder and feed caused another sharp drop so that there were only 1,861,853 cows on January 1, 1948, according to the census. The number of cows increased by only 9,454 head during 1948 which is very small compared to an increase in the total number of cattle of 388,042 head for the same period. This can be explained partly by the fact that the forced reduction in the number of cattle in 1947 was much greater than for milk cows. Generally farmers held on to their dairy cows as long as any feed was available and gave up their steers and beef cattle. When feed again became available they saved as many calves and all types of cattle as possible. The increase in the number of cattle in 1948 was primarily of young stock so that an increase in the number of cows may be expected in the coming years. The number of cows increased during the first half of 1948, but declined the following six months. This reduction may be explained by the fact that more vigorous pressure was applied by the Government in the latter half of the year for deliveries of cattle to meet quotas and some farmers, forced to comply with their deliveries, gave up milk cows as they had no beef cattle. Over 20,000 cows and heifers with calf were estimated to have been sold for slaughter in 1948 in order to meet the delivery quotas.

Low fertility of cows and heifers was reported in 1948 due primarily to various sex diseases. It has been reported that the sterility of cows is more than 30 percent. Plans are being made for improvement in the health conditions of cattle under laws and orders which have been proposed by the Minister of Agriculture, including a law to put the veterinary service under tighter state control and also a law on the control and breeding of farm animals. In order to increase cattle numbers, particularly the number of cows, the Ministries of Agriculture and Food issued an order, around the first of 1949, prohibiting the slaughter of calves under 3 months of age, allocated feed for them and assigned surplus calves to deficit areas. Calves under 3 months of age may be slaughtered or sold for slaughter on special permission only. Farmers who cannot fulfill their goals for production and delivery of livestock are required to purchase additional calves. The target of the Five-Year Plan is to attain a total of 2,350,000 head by the end of 1953. Under present plans good quality stock are not to be slaughtered.

The following table shows the changes in the total number of milk cows:

Number of Cows on January 1
(Average 1934-38, annual 1945-50)

Year	Number of cow Thousands
1934-38 average	2,384
1945	2,003
1946	2,059
1947	2,021
1948	1,862
1949	1,871
1950 estimated	1,921

Although less than one percent of the cows included in the total are not classed as milk cows, about 45 percent are normally used for draft animals as well as for milk. It is interesting to note that a recent decree by the Government prohibits the use of milk cows as draft animals. Whether the Government will be able to enforce this prohibition will depend to a great extent on its ability to supply other draft power or force farmers to consolidate their fields and do their farming under a collective system, using tractors from State machine stations on large consolidated areas.

MILK PRODUCTION

During 1949 there was a decided increase in the production of milk and dairy products in Czechoslovakia, principally due to better pastures and more feed. According to an official report, the total production amounted to 5,768 million pounds, which was 105.5 percent of the goal established under the Five-Year Plan and compares with 4,976 million pounds for 1948.

In 1948 milk production fell below the two previous years and was only about one-half of the 1937 production. The drought in the summer of 1947 did not seriously affect milk production until the second half of the year. Its effects, however, were carried over into 1948 through feed shortages during the first few months and a reduced number of milk cows throughout the year. The average daily milk production per cow ranged from 3.5 quarts in March to a little over 4 quarts during June, July, August and September, and averaged almost 4 quarts for the twelve-month period, compared to 3.3 quarts in 1948.

The average daily yield of milk per cow for the postwar years is relatively low. Undoubtedly, this is due mainly to a lack of feed, but is also believed to be due to under-reporting.

The Five-Year Plan calls for a production of milk amounting to 10,669 million pounds for 1953. The anticipated annual yield per cow by 1953 is 4,520 pounds which compares with about 2,700 pounds for 1948.

Milk Production, annual 1945-49.

Year	Total production	Average daily yield per cow
	Million lbs.	Pounds
1945	4,516	6.1
1946	5,838	7.7
1947	5,327	7.3
1948	4,976	7.4
1949	5,768	8.4

MILK DELIVERIES

Recently the Minister of Food announced that the fulfillment of the quotas for deliveries of milk for 1949 had amounted to 95.6 percent of the goal. On the basis of an official report, deliveries to dairies in 1949 amounted to 2,855 million pounds, or a total of 2,952 million pounds, including cream and butter deliveries converted to milk equivalent. This is considerably above last year's deliveries which were reported to be 2,202 million pounds.

Milk Production and Deliveries of Milk, Cream and Farm Butter, by months, year 1949.

Month	Total milk production	Milk delivered to creamery	Cream delivered to creamery	Farm butter delivered to creamery
	Million lbs.	Million lbs.	1,000 lbs.	1,000 lbs.
January	443	234	4	248
February	400	218	3	262
March	441	232	2	323
April	441	208	2	253
May	498	236	2	332
June	508	258	3	383
July	534	268	2	379
August	538	256	2	343
September	516	246	2	348
October	513	254	2	311
November	473	225	3	305
December	463	220	19	251
Total	5,768	2,855	46	3,738

Even though the total milk production was lower in 1948 than in 1947, the deliveries were higher. This was due to stricter control. It is also interesting to note that according to official reports the planned production of milk for 1948 was exceeded although milk deliveries by domestic farmers were said to have met the plan by only 83 percent.

Under the Five-Year Plan it is expected that domestic deliveries of milk to dairies will reach 5,362 million pounds in 1953 which is almost two and one-half times as much as the amount delivered in 1948.

Farmers who meet their delivery quotas are permitted to dispose of any surplus of milk and dairy products on the free market. This undoubtedly is an attempt by the Government to take over the black market and to encourage farmers to comply with quota deliveries. The effect on deliveries is probably good although farmers generally complain that quotas are so high they have no surplus left for sale on the free market and some complain they are required to make purchases from neighbors in order to meet their delivery obligations.

In principle every person who owns a cow is subject to compulsory deliveries of milk. However, since quotas are assigned to communities and then divided among farmers within the communities, not all farmers who have cows are given quotas for milk deliveries at the present time, but only those who are considered to have more than enough for their own use. The present regulation under which farmers sign contracts agreeing to production plans for their farms and to prescribed delivery quotas make it possible not only to regulate production and deliveries, but also to increase the number of dairy farmers.

Delivery quotas for milk were fixed on the basis of a specified quantity of milk with a fat content of 3.5 percent. If the fat content is lower, farmers may deliver larger quantities of milk and if the content is higher, deliveries may be smaller. In areas where regular milk collections are not common, butter may be delivered instead of milk on a ration of one pound of butter to 25 pounds of milk.

The local national committees and district committees control the fulfillment of prescribed delivery quotas. If a farmer is unable to meet his quota, he must report to the local committee which may request the extraordinary nourishing commission to inspect the farm and determine whether the deliveries are possible. If the commission finds that the farmer is unable to comply, the local committee may adjust his quota within the framework of the total delivery quota for the community. On the other hand, if the commission believes that the prescribed deliveries could be fulfilled the committee may file an indictment against the farmer and propose punishment for failure such as a fine, imprisonment; refusal of allowances for industrial produce, or the introduction

of a national administrator for the farm. The same provisions may be imposed on farmers who do not comply with their prescribed deliveries of milk without reporting to the authorities.

By the end of the Five-Year Plan the production of dairy products is to be 107 million pounds of butter; 30 million pounds of canned milk, 2,480 million pounds of milk for direct consumption, and 67 million pounds of cheese of all types.

The 1949 production of butter, cheese and canned milk in dairies was as follows:

Factory Butter, Cheese and Canned Milk Production
Annual 1945-49

Year	Butter	Cheese	Canned Milk
	<u>1,000 lbs.</u>	<u>1,000 lbs.</u>	<u>1,000 lbs.</u>
1945	63,492	33,598	-
1946	57,100	40,343	-
1947	42,107	25,926	2,894
1948	50,484	28,507	5,725
1949	66,945	30,778	9,332

CONSUMPTION

Official statistics are not available on the consumption of milk and dairy products for 1949, but it is known that there was a decided increase over the previous year. Recent statements of Government officials indicate the 1949 consumption by the rationed population (excluding self-suppliers) exceeded that of 1948 by about 35 percent for milk and about 115 percent for butter. Cheese and butter were available on the free market in 1949 for those who could afford to pay the prices which were several times higher than the rationed prices.

The ration of milk to adult consumers last year was about one-eighth of a quart per person daily. In 1948 there was no ration of milk to persons between 20 and 50 years of age for the first five months, only about one-sixteenth of a quart per person daily for the next two months, and about one-eighth of a quart for the last five months. The ration of butter for adults totaled 8.3 pounds in 1949. During the first six months of 1948 there was no butter ration to adult consumers, except those in special categories, and the total for the last six months of the year amounted to only a little over one pound. The ration of cheese

in 1949 was about the same as the 1948 ration.

The present fat content of milk for fluid consumption is reported to be 2.8 percent or lower, but is to be 3.5 percent by 1953. Under the Five-Year Plan the per capita consumption of milk in 1953 is anticipated at one-half a quart per person per day, or at 412 pounds of milk per year with a fat content of 3.5 percent.

FOREIGN TRADE

Information is not available on the foreign trade of dairy products for 1949. Final figures on imports of dairy products for 1948 are shown in the following table. There were no exports reported for 1948.

Imports of Dairy Products, Annual 1934-38 and 1946-48.

Year	Milk	Cream	Butter	Cheese	Condensed milk	Desiccated milk	Condensed and desiccated milk
1/							
	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.
1934	: 80	: 2/	: 2,228	: 2,626	: -	: -	: 127
1935	: 75	: 2/	: 2,927	: 2,661	: -	: -	: 180
1936	: 35	: 2/	: 496	: 2,554	: -	: -	: 153
1937	: 17	: 2/	: 1,676	: 2,602	: -	: 28	: -
1938	: 1,082	: 2/	: 2,266	: 3,089	: 307	: 154	: -
1946	: -	: -	: 3,506	: -	: 320	: 126	: -
1947	: -	: -	: 6,107	: 1,282	: 210	: 1,566	: -
1948	: -	: -	: 7,431	: 380	: 1,737	: 2,695	: -

1/ Statistics for the years 1939 through 1945 not available.

2/ Negligible.

Exports of Dairy Products, Annual 1934-38 and 1946-47.

Year	Milk	Cream	Butter	Cheese	Condensed milk	Desiccated milk	Condensed and desiccated milk
1/							
	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.	: 1,000 lbs.
1934	: 233	: 2/	: 23	: 1,996	: -	: -	: 5
1935	: 174	: 2/	: 6	: 1,814	: -	: -	: 3
1936	: 161	: 2/	: 279	: 1,553	: -	: -	: 6
1937	: 158	: 2/	: 1,588	: 2,429	: -	: 2/	: -
1938	: 793	: 56	: 1,772	: 1,753	: 2/	: -	: -
1946	: -	: -	: -	: 897	: -	: -	: -
1947	: -	: -	: -	: 140	: 6	: -	: -

1/ Statistics for the years 1939 through 1945 not available.

2/ Negligible.

FEED SITUATION

The general condition of pastures during the first part of 1949 was exceptionally good. This was due primarily to the abundant rainfall in the spring and early summer. In the second half of the year, however, warm, dry weather stunted the growth of forage crops, causing very poor pastures in some areas and making it necessary to place the livestock on feed much earlier than usual. In most areas there was no relief from the drought condition until very near the end of the year. The past winter has been generally mild, with light precipitation and very little snow. Unless there is considerable rain during the spring, forage crops in 1950 may be expected to be poor.

Most farmers in Czechoslovakia produce their own feed for their cows consisting mainly of chopped hay and fodder beets, or leaves mixed with bran. Milk cows are generally kept in stables all summer and given a similar feed with more chopped green hay.

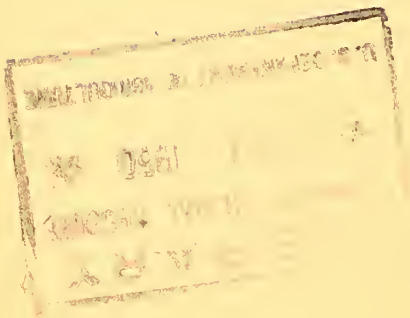
OUTLOOK

A great deal is being said about plans for increasing the production of milk and dairy products during 1950 under the Five-Year Plan. Some officials claim that the recent government decree against the use of milk cows as draft animals is the secret to the production problem. This was expressed in a publication which stated: "According to statistical data there were 634,143 cows used as draft animals in the Czech Lands and 163,094 in Slovakia, totaling 797,237 in Czechoslovakia, (January 1, 1948 census). Most farmers are aware that a cow used for plowing gives much less than the normal quantity of milk. Cows are used for hard work for at least sixty days annually. Applying an estimated daily loss of one pound of milk per cow for sixty days to the entire number of cows used for draft work shows a total loss of 108 million pounds annually.

It is also maintained that the yield of milk per cow on the State Farms and cooperative farms will be far above the yield on private farms. This is used particularly as an argument for organizing Unified Agriculture Cooperatives. One report stated that State Farms alone planned to increase their milk production in 1950 by 27 million pounds. Plans are also being made to have better stock of milk cows on State Farms and in so-called "communal sheds" in communities with exemplary Unified Agriculture Cooperatives.

An official bulletin recently stated that: "For 1950 the production of milk is planned at a quantity of 225 quarts per inhabitant; i.e., the same as that for 1946. In 1949 the per capita production was 204 quarts and in 1936 it was 306 quarts. It is expected to amount to 381 quarts in 1953."

If the government succeeds in preventing farmers from using their milk cows as draft animals, milk production will undoubtedly be increased substantially. Improving the stock of milk cows will also help to increase production over a period of years. The principal factor, however, in determining the milk production in Czechoslovakia is the availability of feed. Last year's pastures, the first hay crops and the production of feed grains were exceptionally good. So far, indications that this will be repeated have not been evident, but good weather conditions would improve crop prospects.





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DAIRYING IN INDIA

Contents

	<u>Page</u>
Milk Stock.....	2
Production.....	3
Dairy Products.....	6
Marketing.....	8
Adulteration of Dairy Products.....	9
Foreign Trade.....	9
Prices.....	11
Consumption.....	12
Government Planning.....	14
Current Feed Situation.....	15
Outlook.....	17

The dairy industry of India has been able to provide only meager rations for the population of India which is almost wholly dependent upon indigenous production. Religious prejudices against killing of cattle and lack of strong centered coordinated planning has prevented any noticeable progress in the dairy husbandry of India for many years. The wide use of underfed stock of little dairy merit, and wasteful insanitary methods of production and marketing has limited the returns for labor and resources utilized in dairying.

Plans for improvement have been mapped out in several schemes, but progress has been minor and spotted due to the lack of finances, and difficulty in obtaining full cooperation of the myriads of small producers and peddlers in the industry confronted with obtaining their daily necessities.

Prepared in the Livestock and Wool Division, OFAR, and based largely upon information supplied by Agricultural Attaches, American Embassy and Consulates in India and from information on file in OFAR.

1 2 1950

The Brahman ^{1/} cattle and water buffalo of India are the only important sources of milk and draft power in the agriculture of a country in which 90 percent of the population live on the land.

The Brahman cattle are the chief beasts of burden for farm and road work and produce only small amounts of milk, except for a few breeds of dairy tendencies. These stock are sometimes quite small. Water buffalo are principally kept for milk and are a less important source of farm labor since they are relatively slow and less able to withstand heat without frequent access to water. The buffalo is able to consume large amounts of coarse roughage in the production of considerable quantities of milk of high butterfat content as compared to Brahman cattle.

MILK STOCK

Total milk stock population of India on January 1, 1950 is estimated ^{2/} at 41.1 million cows, 19.6 million she-buffaloes which are over 3 years old and kept for breeding or milking purposes and 8.2 million milk goats. Other animals, like sheep and camels are unimportant as sources of milk.

There are estimated to be over 31 breeds of Brahman cattle, about eight breeds of buffaloes and other stock which are of less economic importance.

The most extensively used Brahman dairy breeds, at present in order of their importance are: Sindhi, Harian, Tharparkar, Sahiwal and to a limited extent Gir. These breeds are used in different States of India as pure breeds for milk production and to improve inferior local cattle. The Sindhi, Tharparkar and the Sahiwal originated in Pakistan. Since partition ^{3/} there has not been a free flow of these breeds into India. The purchase of a limited number of these animals was included in the Indo-Pakistan Trade Agreement, but at present none are being received from Pakistan due to trade disagreements. If future trade agreements are negotiated with Pakistan, India hopes for a long-term agreement which will supply the desired breeds.

The remaining non-dairy breeds are adapted to draft purposes in the plains or in the rougher portions of the country. The large draft breeds of the north and west are capable of pulling extremely heavy loads, in some cases they are fast walkers. In the east the Brahman are small and somewhat more adapted to the wet lowlands where rice is grown or to the mountainous tracts of eastern Bengal or Assam where the rainfall is very heavy. In the south there are several breeds of medium-small to small trotting Brahman, capable of running long distances while pulling a light

^{1/} Some times referred to as Zebus cattle.

^{2/} Estimated by the Ministry of Agriculture, Government of India, on the basis of the livestock census in 1945 and the Territories affected by the recent partition.

^{3/} Separation of Pakistan from India, August 15, 1947.

cart; they are also good draft animals for light work. The buffaloes are of two general types, namely, the heavy breeds of the north and the lighter breeds of the central and southern part of the country.

PRODUCTION

Total milk production in India, including that directly consumed by calves and kids, is estimated at 47,944 million pounds as based upon the 1945 census with allowances being made for partitioned areas. Of this total 7,290 million pounds was retained by producers and 32,332 million pounds were marketed. India currently ranks second 4/ to the United States, the largest milk producer in the world.

The total production of cows milk, excluding that consumed by calves was 16,970 million pounds as compared with 21,555 million pounds for buffaloes, the remainder is credited to goat production. The buffalo milk production was 4,585 million pounds higher than the total production of cows milk even though the number of buffaloes was less than half the number of cows. The average production of buffaloes milk was 1,101 pounds per year while the production per cow was only 413 pounds. Brahman milk averages about 5 percent butterfat and buffaloes milk averages about 7 percent butterfat.

The approximate annual yield of milk per cow ranged from a low of 65 pounds in Vindhya Pradesh and Madhya Pradesh (formerly Central Provinces and Berar) to a high of 1,445 pounds in Punjab. The production of cows milk is concentrated in the Indo-Gangetic plains and Eastern Rajputana with the United Provinces producing 20 percent of the Indian total milk production. Availability of feed and variances in the quality of milk producing breeds are the factors largely responsible for the different yields of milk.

Since she-buffaloes invariably yield more and richer milk than cows, they are given better feed and care. In the Province of Uttar Pradesh the largest quantity of buffalo milk was produced which totaled 5,634 million pounds, but the approximate annual yield per buffalo was 1,240 pounds as compared to the high yield of 2,500 pounds in Saurashtra and a low of 315 pounds in Assam. In the Punjab, Madras and Bihar Provinces, large quantities of buffalo milk were also produced. The greatest amount of goat milk was produced in Punjab, a total of 146 million pounds and second was the United Province with 143 million pounds. The total Indian production of goat milk in 1949 was estimated at 1,097 million pounds. Among the goats the best animals were found in the Punjab where they averaged 440 pounds annually compared with 124 pounds for all of India.

4/ Excludes Russia.

Milk Produced and Marketed During 1949 1/

	Cows milk	Buffaloes milk	Goats milk	Total
	Million lbs.	Million lbs.	Million lbs.	Million lbs.
Gross production.....	22,395	24,042	1,507	47,944
Consumed directly by calves and kids,.....	5,425	2,487	410	8,322
Net hand drawn.....	16,970	21,555	1,097	39,622
Retained by producers for domestic use, as fluid and products.....	5,052	1,687	551	7,290
Market quantity as fluid and products.....	11,918	19,868	546	32,332

1/ Estimated based upon 1945 census figures with allowances made for partitioned areas.

SOURCE: Ministry of Agriculture, Government of India.

A large number of milk-producing animals in a state does not always mean that the total production of milk is high, as milk yield per animal varies widely between the states. Since the milk herds are at such low yield they respond markedly to any favorable attention. The Punjab has only one-fourth the number of milk animals of the United Province, but milk production is more than one-half of that in the United Province. The population of milk cattle in Madras is nearly 80 percent of that of the United Province, but produces just half of what is available in the latter state.

Production in the Indian country-side is on a very small scale, in innumerable and scattered holdings, which makes collection even in small quantities difficult. On an average, a village produces only 206 pounds of milk per day and the larger portion of it is converted into products or retained for family use, leaving only a small quantity for sale. In the dairying areas, and in the vicinity of cities, production is more concentrated.

Slightly over one-third of all milk is consumed as fluid and the balance is used mainly for the production of ghee. Dahi (curd) accounted for almost 10 percent of the milk and smaller amounts were used in the preparation of butter, khoa, ice cream and cream.

Milk Yield per Animal by Province for 1949 1/

	COWS		Buffaloes		Goats		Total
Province	Approximate	Production	Approximate	Production	Approximate	Production	Production
	yield	tion	yield	tion	yield	tion	tion
	Pounds	Mil. lbs.	Pounds	Mil. lbs.	Pounds	Mil. lbs.	Mil.lbs.
Assam	140	164	315	47	80	7	218
Baroda	345	87	1,810	791	130	6	884
Bihar	620	1,832	1,526	1,789	340	23	3,644
Bombay	140	401	840	1,263	115	76	1,740
C.F. and Berar	65	312	545	549	110	35	896
Delhi	1,270	36	2,000	78	110	2	116
East Punjab	1,445	1,552	2,320	3,224	440	146	4,922
Himachal Pradesh	900	331	1,200	163	200	24	518
Hyderabad	130	328	825	980	50	49	1,357
Kashmir	280	203	570	205	90	8	416
Madhya Bharat	320	563	645	599	100	20	1,182
Madras	450	2,293	800	2,355	180	100	4,748
Mataya	730	225	900	218	100	20	463
Mysore	240	347	590	331	180	46	724
Orissa	245	598	600	161	200	4	763
Persu	900	337	1,667	678	225	68	1,083
Rajasthan	730	919	900	541	100	53	1,513
Saurashtra	1,000	509	2,500	934	200	65	1,508
Travancore	410	165	910	20	95	0.2	185
Utter Pradesh	625	3,432	1,240	5,634	125	143	9,209
Vindhya Pradesh	65	86	445	178	100	11	275
West Bengal	420	1,200	960	133	80	27	1,360
Other areas	481	1,050	826	684	107	164	1,898
Total	413	16,970	1,101	21,555	134	1,097	39,622

1/ Figures estimated on the basis of the 1945 census.

SOURCE: Ministry of Agriculture, Government of India.

DAIRY PRODUCTS

Ghee is butterfat obtained by boiling off the moisture from butter and decanting the clarified fat layer. Although all types of milk (buffalo, cow, sheep and goat) are used for making ghee, the major portion of this fat is derived from buffalo milk. This is due to the high fat content as compared with that from other animals. Ghee is made in every part of India. The principal reasons for the widespread production of ghee are: (1) in a tropical country ghee making represents the only rational method of preserving milk-fat without spoilage for long periods, and (2) in rural areas where facilities for marketing are lacking producers have to convert the surplus of milk into ghee.

The annual production of ghee in India has been estimated at 1,152 million pounds. Of this 61.6 percent is produced in British India and the remainder in Indian States. Approximately three-fifths of the ghee production is concentrated in northern and western India.

About 2,551 million pounds or 5 percent of the total production of milk in India is used for making khoa. This product is obtained by partially evaporating the moisture of whole milk in an open pan placed over a fire. It is mainly used for making Indian sweetmeats for which there is a large demand.

Nearly 2,715 million pounds of milk per annum or 5 percent of the total production is marketed as curds. Plain curd and curried preparations form quite an important item in the diet of the people of Southern India. In the North, curds is beaten up into a drink called "lassi" to which may be added salt or sugar. Cold lassi is a very popular summer drink, particularly in Punjab.

Compared with other products such as ghee, khoa and curd, butter is of minor importance. Only about 905 million pounds of milk or 2 percent of the total production is marketed in the form of country and creamery butter. Butter made in India is often of poor quality. This low quality is due mainly to neglect or lack of knowledge of the proper method of procuring and processing cream, and also in making and handling the butter which results in excessive acid in the cream, excessive curd in the finished product and the absorption by the cream or butter of undesirable flavors.

Casein is made exclusively for export, with little or none for internal consumption. During the 10 years ending 1939-50, approximately 8,000 hundred-weight of casein was exported annually from India. Taking a yield of $3\frac{1}{2}$ pounds of finished casein from 100 pounds of skimmed milk, approximately 25.5 million pounds of the latter are utilized in the above trade. This quantity is only about 6.5 percent of the total skimmed milk produced annually.

The methods of producing and handling milk in India are interesting in contrast to those in this country. About 4 to 6 percent of the cows and she-buffaloes are maintained in urban areas for production of milk to be sold as fluid milk. Since under present conditions milk suitable for market can be held only for a short period of time. The remaining cattle are kept in villages by small rural producers. The village dairyman grazes his cattle in waste areas, forest areas, or on the fields after removing the crops. In general, the fodder supply is adequate only during the rainy season, that is for three to five months, not during the remainder of the year. The nutritive value of the fodder available in the north is sufficient to partially offset the scanty supply during a portion of the year, while cattle in other parts of the country are almost never adequately fed. The feeding of grain to milk cows is not a general practice, except in limited areas. All milking is done by hand with the possible exception of a few large herds. Cooling the milk by the producer is practically unknown, certainly in the villages. Tap and well water often are as warm as 70° to 84° F. This indicates the ineffectiveness of cooling milk without refrigeration, which is not practical for the many small producers because of the high initial and operating costs.

Milk is transported mainly by head-load or bicycle. The containers are frequently uncovered; green leaves or grass is sometimes put into the milk to reduce splashing during transit. The most common container, however, is made of galvanized iron with a tight cover. It contains a faucet near the bottom from which the milk required may be measured out at the door of each customer. Large cooperative milk supply associations, of which there are several in the larger cities, collect their milk at a village collecting center and transport it in large covered cans by horse-drawn carts or trucks to the processing plant in the city. Rather than cooling this milk at the collecting center, it is usually heated and transported to the city plant while hot as a means of preserving its quality. Large private dairy farms usually produce their own milk and handle it in milk cans made of tinned iron. A small quantity of milk is transported by rail into such places as Delhi, Lahore, Calcutta, Bombay and Madras. This milk is handled in cans placed in special compartments or cars attached to passenger trains. Milk is distributed in bottles after pasteurization only where there is a large European population.

Ghee is transported in earthenware, skin or metal containers. A small village producer usually takes his ghee to a nearby mandi bazaar where it is sold at a price which he and the buyer, a large ghee merchant as a rule, privately agree. It is then taken to a heating plant where it is blended, reheated to assure the removal of all moisture, and tinned in 40-pound rectangular tins in which it goes to the retailer. Small quantities of khoa and chenna, forms of concentrated milk about the consistency of putty or drier, are marketed by the village producer. These products are usually transported in a metal or earthenware container or wrapped in a cloth or in dry leaves.

MARKETING

The marketing of milk and milk products in India is not facilitated by extensive use of modern technology and thus generally rigidly limits the availability of this food to consumer in areas where production is small relative to the consuming population. About 60-70 percent of the available urban milk supply is produced at high cost within the towns and cities by dairies maintained in congested quarters and under very insanitary conditions. The remaining 30 or 40 percent of the urban fluid milk supply is brought from nearby suburban villages by individual producers. There is little assembling or processing of fluid milk in the rural villages.

The dairy industry remains in the hands of petty dealers with limited means and a narrow outlook. Dishonest competition has hampered the growth of dairy farmers and producers' cooperative societies.

Many towns and cities have milk markets, where milk is assembled and sold, but this often consist of an open area only. In some places, the railway stations serve as a market place for milk arriving by train. The milk trade is quite disorganized with various groups engaged in the production, procurement and distribution of milk. There are three main groups operating in the trade of dairy products. The producers include the small rural and urban dairymen, as well as the larger dairy farms. The wholesalers are either the collectors of milk or cooperative societies. The retailers are the milk peddlers or "halwais" (small shopkeepers for the sale of dairy products), and some producer-retailers. The milk is most often poorly handled and the milk of cows and buffaloes is often mixed and generally watered before being put on the market.

Consumers generally boil the milk before using. Very little milk (if any) is processed in the Western style, because pasteurization and proper distribution add to its cost and it is difficult to push it in the market in opposition to the existing competition from unscrupulous retailers selling cheap adulterated milk. Pasteurization does not preclude the necessity of boiling before use because of the likelihood of contamination after pasteurizing.

Progress has been made during the past few years in the organization of new producers' cooperating milk unions. At present 26 unions together handle about 181 thousand pounds per day. The largest number of milk cooperatives are in Madras with 22 unions handling over 148 thousand pounds of milk per day. However, the part played by the cooperatives in the handling and distribution of milk is very small in relation to total production.

Under provisions of the Food Adulteration Acts there is considerable scope for local bodies (municipalities, district boards, etc.), to control the production and sale of milk in their particular areas. The power of making necessary rules and regulations and of prescribing legal standards for various foodstuffs including milk is in the hands of local governments (Provincial and Indian States) and not with the Government of India.

ADULTERATION OF DAIRY PRODUCTS

The milk and ghee put on the market is generally adulterated. Tests run on milk entering Delhi revealed adulteration in 83 percent of the cases and that the milk was adulterated on the average of 76 percent. The most common adulterants used are water, which may be dirty and contaminated, skimmed milk and rice water. Cane sugar and flour are also added in some cases. Adulteration in butter and ghee is on a still larger scale. Vanaspati ^{5/} is used as a common adulterant. High prices for pure products due mainly to high production costs in urban areas had favored this practice. Also standards for milk differ from state to state and where the legal standards are low for locally produced pure milk it permits legalized adulteration with water or skimmed milk. There are not at present sufficient testing stations for inspecting milk. In each state there is but one testing station and each such station checks for the adulteration of several products, including milk, and from many areas. Inspection of milk being brought into the city from the surrounding country (usually in small milk cans carried by bicycles) are made as well as regular checks on dairies and "halwai" shops. To enable consumers to obtain supplies of pure ghee, the Directorate of Marketing and Inspection inaugurated its Aemark scheme of grading and certifying the quality of ghee in 1937. This scheme has progressed steadily and there are now over 60 stations grading ghee in India. However, only about 5 percent of the marketable surplus of ghee is Aemarked.

FOREIGN TRADE

The important export trade of India in dairy products is relatively unimportant. The imports consisted mainly of condensed milk, dried whole and skimmed milk, butter and cheese. A very small amount of ghee was exported. Limited purchasing power is the main deterrent to increase imports of dairy products. However, butter and cheese imports for the first half of 1949-50 fiscal year are over twice the entire imports for the year 1948-49.

^{5/} About 25 percent of India's peanut oil is used for the production of vanaspati, a substitute for butter or ghee. This production which competes with butter in India is gaining increased use.

Imports of Dairy Products 1948-49 1/ and
April - September 1949 2/

Product	: 1948-49	: April-September 1949
	: Quantity	: Quantity
	: Hundredweight	: Hundredweight
Butter.....	5,041	11,115
Cheese (including canned).....	4,730	10,999
Ghee.....	<u>3/</u>	<u>9</u>
Evaporated or condensed whole milk....	231,575	100,419
Evaporated or condensed skimmed or separated milk.....	19,361	<u>3/</u>
Dried or powdered whole milk.....	31,607	34,212
Dried or powdered skimmed milk.....	63,555	30,127

- 1/ April-March fiscal year.
2/ First six months of fiscal year.
3/ Not recorded.

SOURCE: Sea-borne Trade and Navigation of India (issued monthly by the Department of Commercial Intelligence and Statistics, India).

Exports of Dairy Products 1948-49 1/ and
April - September 1949 2/

Product	: 1948-49	: April-September 1949
	: Quantity	: Quantity
	: Hundredweight	: Hundredweight
Butter.....	<u>3/</u>	<u>3/</u>
Cheese.....	<u>3/</u>	<u>3/</u>
Ghee.....	<u>3/</u> 4	<u>3/</u> 78
Milk and milk products.....	<u>3/</u>	<u>3/</u>

- 1/ April-March fiscal year.
2/ First six months of fiscal year.
3/ Not recorded.

SOURCE: Sea-born Trade and Navigation of India (issued monthly by the Department of Commercial Intelligence and Statistics, India).

PRICES

The price of milk in 1949 was several times higher than the price prevailing before the war. Milk that sold for about 2.6 cents per 2.06 pounds has risen to as high as 10.5 cents per 2.06 pounds in 1949. Prices prevailing during 1949 at certain large markets in India are indicated in table. The average price for fluid milk was around 13 to 16 cents per 2.06 pounds, but the price of fluid milk in one state bears little relation to those prevailing in other states. Local factors determine the price of milk. These factors include the type of milk, whether cows, buffaloes, goats or mixed, extent of adulteration, cost of maintaining animals, transportation, and, of course, demand. Boiled milk sells usually at about 1.3 cents per 2.06 pounds more than raw milk. The buffalo milk which is richer in fat brings the highest price. Mixed milk usually sells for more than cows milk, but it is cheaper than the buffalo milk. Goats milk is usually the lowest priced milk and is generally not sold for fluid consumption because of its strong flavor. In Northern India the milk prices are relatively low as the milk animals are of better quality and milk is less scarce. In the Southern and Eastern States, where production is much below the Indian average, prices are higher. Per capita consumption would increase, of course, if milk prices were reduced.

Retail Prices of Milk at Selected
Markets on the First of each Quarter 1949

Market	Cents per Seer 1/			
	January	April	July	October
Bombay.....	16	21	23	21
Madras.....	13	13	12	13
Nagpur.....	13	13	16	16
Calcutta 2/.....	21	16	21	21
Kampur.....	11	14	14	14

1/ Equals approximately one quart.

2/ Cows milk only.

SOURCE: Agricultural Situation in India (issued monthly by the Directorate of Economics and Statistics, Ministry of Agriculture, GOI).

During the year, prices of ghee have dropped slightly in the markets listed. The average retail price for the best grade of ghee was around 51 cents per pound. The price of ghee depends on the physical characteristics of the product, its purity, type, grade, variety and demand. By far the most important factor affecting price is purity. Wholesale prices for ghee during June 1949 in Calcutta averaged about 61 cents per pound. Butter at Calcutta was quoted from 41 cents per pound for unsalted butter up to 61 cents per pound for salted butter. Cream in the same market was selling for 66 cents per pound.

Retail Prices of Ghee at Selected Markets
on the First of each Quarter 1949

Market	Quality (Agmark)	Cents per pound			
		January	April	July	October
Khurja.....	Special	-	56	54	48
	General	-	55	52	47
	Ungraded	-	48	47	46
Shikohabad....	Special	1/ 55	55	49	48
	General	1/ 54	52	48	47
	Ungraded	1/ 53	47	46	47
Bombay.....	Special	-	62	59	55
	General	-	56	53	-

1/ Mid-month prices.

SOURCE: Agricultural Situation in India (issued monthly by the Directorate of Economics and Statistics, Ministry of Agriculture, GOI).

CONSUMPTION

Milk and milk products are the main source of animal protein in the diet of the population of India. Although ninety percent of the human population and over 95 percent of the milk animals are located in villages, the demand for salable milk and its products is mainly urban. Village people are generally too poor to purchase milk. Cultivators generally meet their requirements by keeping one or two goats, cows or buffalo cows. Even in important dairying tracts where production of milk is abundant, it is estimated that one person out of six goes without milk or milk products. The per capita consumption of milk and its products in India is only about 5½ ounces per day, and even less in urban areas. It varies considerably from area to area according to production of milk and density of population. In the Punjab it is 15.2 ounces per person a day. In comparison Assam consumption is 1.3 ounces. To meet full requirements of 16 ounces a day per person, recommended by the local nutrition experts, the rate of production of milk would have to be increased by about 300 percent. There is no

possibility of an increase of this size in the near future - in fact the Dairy Development Adviser to the Government of India stated that the total production was on the decline which would indicate a decrease per capita consumption. The problem of supplying sufficient milk to cities has been complicated by the rapid growth of the cities, continued influx of rural population, the scarcity of fodder and space for the maintenance of milk animals, and adulteration of dairy products. Also the price of milk has been very high and out of the reach of many potential consumers. At times there has been surplus milk unsold in many cooperative institutions due to high prices.

Average Daily Per Capita Consumption of
Fluid Milk and Dairy Products 1/, 1949

State	Per capita consumption <u>2/</u> ounces
Assam.....	1.23
Baroda.....	13.57
Bihar.....	4.37
Bombay.....	3.02
Central Provinces and Berar.....	2.00
Delhi.....	5.53
East Punjab.....	16.89
Hyderabad.....	3.64
Kashmir.....	4.54
Madhya Bharat.....	7.34
Madras.....	4.18
Mataya.....	11.02
Mysore.....	4.33
Orissa.....	2.64
Patiala and E. Punjab States Union.....	3.97
Rajasthan.....	15.72
Saurashtra.....	13.78
Travancore.....	1.34
United Provinces (now Uttar Pradesh)....	7.16
Vindhya Pradesh.....	3.26
West Bengal.....	2.77
Other areas.....	5.87
Average for India.....	5.45

1/ Dairy products converted to fluid milk basis. 2/ Estimated on the basis of Livestock Census, 1945, for production of milk and the human population as given in the 1941 Census Report.

SOURCE: Ministry of Agriculture, Government of India.

It is estimated that, on an average, about 28 percent of the milk produced is consumed as fluid, generally after boiling, 57 percent is made into ghee, 5 percent into khoa and 5 percent into curds. Butter and cream account for only 2.0 percent and other products (rabri, malai, etc.) 2.8 percent. Only 0.3 percent of the production is used for making ice cream, but its consumption is rapidly increasing. Cows milk is preferred for drinking, and buffalo milk for the manufacture of dairy products.

In the course of the manufacture of ghee, buttermilk (chass or mattha) is produced in considerable quantity. About 27 pounds of buttermilk is obtained from making a pound of ghee. This is widely consumed by the producers themselves. The 395 million pounds of skimmed milk produced in the manufacture of cream and creamery butter, is mainly used for adulterating whole milk for the making of cheap khoa or curd.

Many people in the United States presume that milk is not generally used for food purposes in India because of custom and religious beliefs. Every Indian uses milk or milk products wherever he can obtain them. Village people drink comparatively large quantities of whole milk, or buttermilk which is produced when making ghee. People of the higher income levels use great quantities of ghee for cooking purposes. Khoa and chenna are used for making sweets by mixing with sugar, ghee, nuts and flavoring materials. Small quantities of butter, cheese and ice cream are made, primarily for the European residents. Indians, however, are consuming increasing quantities of these products. At least two kinds of domestic cheese, namely Surati and Dacca are made in small amounts.

GOVERNMENT PLANNING

The Government of India announced a plan in 1948 to increase the production of milk by at least 10 percent during the following five years. It was divided into seven separate projects as follows:

1. Increased milk production through improved bulls.
2. Encourage small holders to produce milk for sale in cities.
3. Colonization of dairy areas near cities.
4. Artificial insemination.
5. Cross-breeding of inferior cows in isolated areas.
6. Milk cooperatives.
7. Increase production of green feed, silage and oilcakes.

The first of these projects is self-explanatory. The second would encourage the establishment of small dairy farms by subsidizing small holders for the purchase of milk animals and dairy equipment. An improvement in the breeding program is necessary especially in hilly and

wet regions of India. At present the cows living in these areas are of inferior quality, but it has been found that by crossing with improved stock the crossbred thrives remarkably well. Under the plan it is also expected there will be established cooperative creameries throughout rural India. Many of these creameries will be established in milk pockets where the milk is now being used for the production of ghee. Ghee production is considered wasteful use of milk compared with the need for other milk products by most of the population of India. By setting up cooperative creameries the Government of India can assure small holders a fair price for their milk or milk products. The Government would plan to convert the milk into butter or condensed milk rather than ghee. The plan in its entirety has not been placed into country-wide operation as yet, but several phases of this plan are being implemented under regional schemes.

The Government of Bombay has opened a milk colony 20 miles north of the city. The purpose of the colony is four-fold: (1) evacuation of livestock from the city to more natural surroundings; (2) to eliminate the danger of spreading disease among the population from the herds now in the city; (3) with a large concentration of cattle technical assistance can be easily given in order to maximize the milk supply; (4) the present method of distributing milk in bulk must be thoroughly reorganized and controlled through a non-official body. The Colony is divided into thirty units to accommodate 500 head of cattle each. In 1949, 1,600 acres of land were in the project, and it is planned to eventually total 3,000 acres. The complete project will accommodate 15,000 head. The Colony is complete in that it has veterinary service, hospitalization for men and animals. The milk will be produced by the many small cattle owners under the supervision of Government officials, and the entire production of the Colony will be pooled and pasteurized before shipment to Bombay city.

Within Greater Bombay city the Milk Commissioner estimates there are between 60,000 to 80,000 head of milk animals of which at least four-fifths are milking buffaloes. What is to be done with the remaining cattle in the city has not been formally discussed, but it is hoped that other cattle centers can be arranged.

Calcutta has since initiated a similar project.

CURRENT FEED SITUATION

Fodder for milk animals which is generally of low quality is at present deficient by almost 50 percent and the supply of concentrates is deficient by 60-65 percent. Straws from cereals and millets constitute most of the roughage fed and the balance is from haphazard grazing. The fodder is deficient in digestible crude proteins and

starch as well as minerals and it is practically devoid of vitamin A. In the ration of the milk cows the supply of green fodder is almost negligible.

The use of leguminous crops as fodder would help alleviate the shortage of feeds, but the land is needed for foodgrain production and very limited areas are left for fodder. No provision for feed crops have been included in the "Grow-More-Food" program. The main source of concentrates has been oilseed cake, but the vanaspati (vegetable ghee) industry has been making inroads in the supply position and uses chemical solvents to extract all the oil from the oilseed cake. A large quantity of oilseed cake is also used as fertilizer.

The livestock population has to depend almost entirely on the residue of human food crops, scanty pastures and a small amount of cottonseed oilcakes and other concentrate feeds.

These shortages are not only quantitative, but nutritionally poor as straws rather than cultivated fodders constitute more than 50 percent of the total roughage supply. Also hardly a decade passes without a partial or complete failure from monsoons which result in crop deterioration or failure and further reduces the already small available resources of feeds.

One of the large problems facing the Indian agriculture is the disposition of the large number of useless cattle. Many of these animals are allowed to roam about uncared for and are a menace to growing crops. During the day the fields are guarded by men working there, but the greatest damage to the crops is done at night when groups of these animals stray and often semi-wild cattle damage the crops. One of the solutions has been the organization of gaushalas which literally means "houses for cows" and pinjrapoles "homes for disabled animals."

In the pre-partition days some farmers would sell useless cattle to Moslim dealers for their hides and meat. Since partition the protection and care of cows which is an article of faith and part of the religion with the Hindus has resulted in the increased number of useless cattle.

The northern portion of the country has the lowest rainfall, consequently the scantiest vegetation, yet it produces the largest people, and the largest cattle with the highest milk production, eastern and southeastern India has the highest rainfall, consequently the most profuse vegetation, yet the smallest people and the smallest cattle with the lowest milk production. The reasons may be; (1) the high rainfall which leaches minerals from the soil that are essential to proper growth in man and animal, and (2) the minerals found in grain and fodder crops in the wetter areas are not so readily assimilated as those found in the grains and fodders of the drier regions. Studies in Bengal, one of the wetter areas, have shown, for example, that while the rice straw contains small quantities of calcium and phosphorous, appreciable quantities of oxalic acid are present which inhibit the assimilation of these minerals.

OUTLOOK

The need for dairy products increases yearly as the human population grows, but the supply will probably not increase significantly in quantity in the near future and improvement in quality will be mainly in fluid milk which even then will be slow and spotted.

The problems of improving the feed supply and increasing the quantity of milk produced in the 520,000 villages throughout India are not being solved. In fact, the prohibition on slaughter of cattle is resulting in increased numbers of livestock and greater competition for the already short feed supplies. The number of milk animals are increasing in India, but most are poor grade, underfed, and the milk yield per animal is expected to drop as well as the total production. The steady flow of good milk breeds which formerly came from Pakistan areas has not been replaced and without these breeds the milk production is likely to drop further. In the meantime the human population continues to increase at the rate of about one percent a year and the demand for dairy products increases accordingly. The milk shortage is especially acute in cities.

These situations motivated the various plans, initiated by the State and Central Governments, for increased milk production. One plan aimed at alleviating the dairy problems in urban areas involved the creation of efficiently run dairies in rural areas close to the urban markets, similar to the Bombay project. These projects relieved the crowded cities of poorly kept stables, enable the production of feed, ensure better breeding and care of progeny, and help prevent adulteration of milk.

Plans to reach the village level in India in order to increase the production of dairy products include the Key Village Plan and the Five-Year Plan for Increasing Milk Production. No immediate improvements would be possible even if these plans were implemented at this time, but a slow increase in quality of the animals and in production would be evident after a number of years. But to implement these plans in even a small percentage of the villages is a tremendous problem that the State and Central Governments cannot undertake at present. Neither of these plans are possible unless the basic need for additional feed is met. The "Grow-More-Food" program urges placing all possible acreages under food crops and does not make allowances for feed crops.

The organization of milk societies and milk unions may become an important means of improving the quality of milk supplies to towns and cities. With the advent of improved means of transportation, especially with provisions for refrigeration, and adequate storage and processing facilities, the marketing side of the dairy products industry will improve. Demand for dairy products is far from satisfied at present and the possibilities for increasing the demand are almost unlimited.

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FOREIGN MARKET NOTES--DAIRY PRODUCTS

Outlook for Cuban Imports of United States Dairy Products 1/

By George H. Day

CONTENTS

Summary.....	2
Production, Distribution and Utilization of Milk in Cuba.....	2
Prospective Milk Production in the Near Future.....	6
Immediate Business Outlook in Cuba.....	6
General Problems Affecting the Import Outlook.....	7
Barriers to Imports.....	8
 <u>Outlook by Products</u>	
Ice Cream.....	9
Cheese.....	9
Butter.....	11
Sweetened Condensed Milk.....	11
Evaporated Milk.....	12
Dry Milk Products.....	13
Whole Milk.....	13
Nonfat Dry Milk.....	14
Milk Base Baby Foods.....	15

1/ First of a series of preliminary reports of a study of market outlets for United States dairy products in Caribbean and Latin American Countries conducted under the provisions of the Research and Marketing Act.

Summary

Prospects for increasing Cuban imports of dairy products from the United States during the next 2 or 3 years, at least, do not appear generally favorable. A further increase in Cuban production of milk and dairy products seems likely, barring unfavorable weather conditions or a reversal of the gradual decline in sugar prices. Declining Cuban incomes with attendant reductions in purchases of most foodstuffs and other Cuban-produced consumer merchandise are expected further to aggravate the problems of milk surplus which have prevailed into the present dry season (November - April). The recent removal of the embargo on cheese exports implies that Cuba again is approaching self-sufficiency in dairy products and may foreshadow a possible similar action on butter. A declining rate of consumption of fluid milk and the recent restoration of tariffs and other costs on imports of evaporated and condensed milks imply that imports of these commodities will decline from the annual rates established in 1948 and 1949.

The prospect for imports of dry milks is lessened by the improved quality and increased production of these products by facilities recently installed in manufacturing milk areas of central and eastern Cuba and by the relatively limited uses to which these products are being put. While the continued importation of some dairy products in limited quantities from the United States seems likely in the next few years, there are few factors pointing to an increase. Barring unforeseen conditions, it seems likely that most of these imports will be in the form of staples, such as evaporated milk and possibly dry milks for use during seasonal shortages, or in the form of specialties such as infant foods and certain cheeses requiring the use of specialized techniques.

Production, Distribution and Utilization of Milk in Cuba

Milk is produced fairly generally throughout every province in Cuba and is generally available throughout the rural areas of the island, with seasonal shortages usually occurring only in the dry season. In importance, dairying is recognized to be among the first five of the island's industries. Commercial dairying is of two distinct types. Full-time dairying farms supply most of the fluid milk to Havana and some of the other large cities especially in the west, while dual purpose herds predominate in central and eastern Cuba where much of the dairy manufacturing takes place. While milk is produced on nearly 60 percent of Cuba's 160,000 farms, no more than 2,000 specialized dairy farms are to be found on the island, most of the milk being supplied by beef or dual-purpose cattle.

Milk production throughout Cuba is characterized by a wide seasonal variation, with heavy production during the rainy season (May throughout October) and relatively light production during the

dry months, usually November through April. During the present season, however, late rains have contributed to a smaller than usual decline.

In the eastern and central regions where the seasonal surplus is greatest and the bulk of manufactured products are produced, most cows are bred to freshen as the heavy rains produce lush pastures. The cows continue to be milked as long as they produce at least two or three quarts a day over the amount taken by the calves that are ordinarily turned with the cows throughout the lactation period. Since this means that most of these dual purpose stock are milked for a period of only six months, the seasonal variation is great. Little attention has been paid until recently in breeding stock for milk production in these areas. The returns on milk relative to labor costs have been low, the use of supplementary feeds is negligible, and the average production per cow is low.

In the western-urban milk sheds where milk prices are relatively higher, increasing attention has been paid to the improvement of dairy breeds, the supplemental feeding of concentrates and roughage, and breeding to year-round production. Here, calves are removed from the cows within a few weeks, the resulting production is relatively higher, and the seasonal variation in production is much less pronounced. In these markets, however, an increased demand resulting from the seasonal increase in income from sugar milling and the influx of tourists and business people tends to accent the winter and early spring shortage.

With production fairly general throughout the rural areas of the island, and very little farm cooling equipment available, milk utilization is affected considerably by the availability of transportation facilities. About half of the milk is consumed on farms where it is produced. Since farms in many areas are not on good roads, lack of transportation, especially during the rainy season, restricts the sale of milk products, if any, to occasional deliveries of farm-separated cream or sale of homemade white cheese.

Most of the manufactured dairy products are made in factories located along the central highway in the central and eastern part of the island where good primary and secondary roads make possible the daily shipment of milks from nearby areas of relatively heavy production. Important plants or receiving stations are located at Sancti Spiritus and Placetas in Las Villas Province, at Camaguey and Florida in Camaguey Province and at Bayamo and Victoria de las Tunas in Oriente Province. Farm-separated cream concentrated to 50 to 60 percent fat is delivered to these plants two or three times weekly from less accessible farms.

Havana and Santiago are probably the only two large cities with organized fluid milk sheds. Much of the milk for these markets is hauled from considerable distances and is received at cooling stations and delivered to the city bottling plant in tank trucks. Some farms

in the Havana milkshed are equipped with coolers.

As brucellosis is common in many areas, there is an organized movement aimed at compulsory pasteurization of all milks for fluid consumption as soon as feasible. The present practice in nearly all areas is to boil the milk before using. This is especially true in the preparation of milk for coffee in which a concentrated portion of coffee is poured into about two-thirds of a cup of hot milk. The practice of boiling the milk suggests that, although it is necessary under present production conditions, much of the food value may have been precipitated and lost. About 25 percent of the fluid milk sold in Havana is pasteurized and delivered in glass containers with caps and hoods. The bulk of the fluid milk, especially in other areas, is handled in a primitive manner.

As in the United States, the prices paid for milk are closely related to the utilization to which it is put. In Cuba, prices for milk used for fluid purposes and canned milks (not for butter and cheese) are regulated by an agency of the Ministry of Commerce. The minimum price to be paid producers for Grade B milks (representing the bulk of supplies) in the Havana milkshed is about \$4.36 per hundred pounds during the flush period and about \$5.20 during the dry season (November - April). Ceiling prices per quart for pasteurized milk amount to about 19 cents delivered to homes and about 15 cents per quart at stores without seasonal variation. Retail prices on raw milk are about 1 cent per quart less. Minimum prices to be paid producers for milk in the Santiago milkshed vary by zones, with the average around \$4.00 per hundred pounds. Milk sold in this market (presumably raw) has a ceiling price equal to about 12.4 cents per quart in stores and 14 cents per quart for home delivery. It may thus be seen that both prices and distributors' margins are somewhat less than in the United States. Offsetting this, of course, are the lower production and handling cost of meeting less stringent sanitary requirements. Minimum prices paid to producers for fluid milk and ceiling prices at retail in other areas of this island are uniformly set at a level moderately lower than prices in the Santiago market.

Milk prices paid by condenseries in the surplus and dairy manufacturing sections of central and eastern Cuba have been important in establishing the general level of paying prices for most milk other than that in the two important milk sheds mentioned above. The large plants at Sancti Spiritus, Camaguey and Bayamo have also been important factors in absorbing seasonal surpluses and producing canned condensed milk which at present has general acceptance throughout the island. This provides the principal local product with long-time keeping characteristics. During the recent flush and up to the present, paying prices have averaged $9\frac{1}{2}$ - 10 cents per litre (about \$4.20 to \$4.40 per 100 pounds). Since the milk received at these condenseries has a butterfat test varying from about 3 percent fat during the summer

flush to somewhat over 4 percent in the late fall, it is necessary to standardize the fat content before canning. Surplus butterfat previously sold to creameries recently has been retained and standardized by the use of significant amounts of nonfat dry milk. The fact that butter producers have had difficulty in paying these prices and were limited to a large extent to the use of farm separated cream, has undoubtedly contributed to the gradual decline in the quantity and quality of Cuban butter production. However, recognition, by a few large operators of the market for nonfat dry milk may tend to retard the decline in butter production. The returns on cheese have generally been sufficiently high to assure ample milk for that purpose in direct competition with condenseries. While the Ministry of Commerce has established ceiling prices on milk to be canned, no corresponding ceiling is in effect with respect to milk for making butter or cheese. Compliance with price ceilings, however, has been only fair, and probably has not seriously affected the flow of milk from one product to another.

Total Cuban milk production in 1949 is estimated at about 1.2 billion pounds, compared with 1.1 million pounds in 1948 and 1947, and is the greatest since the immediate prewar years. This production rate was achieved in spite of a slight reduction in the number of cows milked and largely because of extended rains which have kept pastures green into early 1950. With the number of cows actually milked estimated at about 850,000, this would mean an average production per cow of about 1,410 pounds for the year. The apparent increase in production per cow can be explained in part by the fact that the reduction in cow numbers occurred mainly in dual purpose areas, while reliable estimates indicate a gradual increase in milk cow numbers in Cuba's three western provinces where production per cow is relatively high.

There is no clear statistical picture of milk utilization comparable with that available for the United States. It seems likely, however, that the percent of total production used in whole milk products is not as great as in the United States. Hence, a direct comparison of per capita consumption on a basis of milk equivalent of production and imports should place per capita consumption in Cuba in a favorable light. Few of the creameries have milk drying facilities and much of the factory-separated skim milk and buttermilk is fed to hogs or wasted. In addition to a large amount of skim milk fed or wasted on farms, a large percentage of farm consumption is of white cheese, from which the whey is lost or fed. No estimates have been made of per capita consumption of fluid milk in Cuba, except in the Havana area, where estimates indicate an average daily consumption of about a half pint daily. Fluid consumption rates in other areas, with a greater seasonal variation in milk supplies, are believed to be lower. Consumption of fluid cream is negligible.

Tentatively assuming the milk equivalent of the entire production to be used for human consumption, and adding an estimated equivalent of 100 million pounds of imports in 1949 (milk equivalent based on BHNHE * nutritional conversions), Cuban per capita consumption of milk amounted to about 250 pounds for the year. This compares with United States consumption of about 800 pounds per capita. The consumption rate on individual dairy products in Cuba, while high relative to most Latin American countries, is low relative to consumption in the United States for all products except condensed milk. The supply and consumption of each of the principal products is discussed by commodities in a later section.

Prospective Milk Production in the Near Future

While the production of milk and dairy products in early 1950 has been favored by unusual weather conditions, there are reasons to believe that Cuban produced supplies will continue to be generally ample to meet the prospective demand for the next few years. Prices for sugar have recently been good but prospects for increased supplies from other areas foreshadow some decline. This would result not only in a decline in the general purchasing power of the population directly, but would decrease the Cuban demand for meats, tobacco, and other agricultural products, thus encouraging a shift of emphasis to dairying. Prices for Cuban beef cattle recently have declined and further increases in dairy production appear likely as cattlemen and farmers seek diversification in an attempt to maintain income. In addition, there has been some improvement in feeding practices, especially in the western provinces, and a gradual improvement in the milk production capacity of dual purpose cattle on eastern ranges and farms with the more general introduction of Brown Swiss stock.

Salient Points in Cuba's Immediate Business Outlook

Cuban importers have no problem of securing dollar exchange. The most recent figures on Cuba's balance of trade indicate that the value of exports exceeds the value of imports. Additional dollars are obtained from the large tourist trade, United States investments and other invisible items. The ratio of United States to Cuban currency in circulation has been increasing.

Prospects for income from the current sugar crop are good. With a moderate decline from last year's production level and little problem of heavy sugar inventories at the start of the new grinding season, there seems little likelihood of an immediate decline in

* Bureau of Human Nutrition and Home Economics, United States Department of Agriculture.

sugar prices. Sugar production in some of the more important competing areas has not yet recovered. Thus, sugar income is likely to contribute to a sustained Cuban economy in 1950. In addition to her exports of other less-important agricultural products, prospects for business activity are favored by recent Cuban congressional approval of a \$200,000,000 loan (not yet financed) for public works and general improvements. Private construction also continues to be an encouraging factor in Cuban business prospects. At the close of September, sugar workers' wages for the 1950 season were frozen at the prevailing high 1947 level and there is little expectation of further serious labor difficulty in industry generally. The over-all volume of employment, however, probably will continue below that for the peak year 1947.

General Problems Affecting Imports of United States Dairy Products

The importance of establishing and maintaining high standards of quality in dairy products cannot be overemphasized. Not only will this prove of service to those Cuban agencies struggling to establish practicable and safe standards of health and nutrition, but will help maintain markets for our products until such time as Cuba can fully supply its own needs. The continued premium commanded by such products as Holland's Gouda cheese leaves no doubt as to the beneficial effect on demand for those products for which top quality has been established and maintained.

A broad uniform policy with respect to United States dairy product shipments should be established. It is important that shipments be made with an eye to long-term effects. No dumping or related activities should be practised. Such acts cast doubt as to the sincerity of our intent and raise the justifiable antagonism of Cuban dairymen. In view of the shortage of storage space adequate to protect products against heat, humidity and pests, it is important not to overstock Cuban distributors. Most products should be moved within a month's time.

While there is much to be learned with respect to packaging, a few preliminary suggestions seem in order. Most units for retail sale should be put in small, but inexpensive packages in line with a policy of rapid turnover. Small individual packages would make for greater sanitation in marketing, help maintain the identity of the product to the final user, help reach the purchasing power of the average Cuban and help avoid the deterioration likely to occur in homes without refrigeration. Small units are attractive to the scattered small retailers who distribute the bulk of Cuba's food. A sizable part of Cuba's butter is distributed in 1/4 and 1/8 pound prints.

While there will continue to be a demand for high-priced special dairy products among tourists and the wealthier classes, the principal untapped markets seem to be: (a) relatively large segments of low income groups in Havana and other urban areas not readily accessible

to rural milk supply and (b) a large number of non-farm-owning sugar workers. The potential demand on the part of both groups appears greatest during the dry season.

With respect to financing exports, it should be noted that open account terms are rarely extended. Irrevocable letters of credit usually are required, although there is a growing tendency to extend credit to importers of long standing.

Barriers to Imports of United States Dairy Products

While all dairy products are dutiable in the Cuban tariff schedule, rates on United States dairy products, with the exception of those on dry milk and on evaporated and condensed milks, do not appear excessive. A series of additional taxes, some of which represent discriminatory internal taxes, however, act as an additional barrier to imports. These costs include: (a) a consular fee of 2 percent on the FAS value, (b) a public works tax of 3 percent (on dry whole milk, malted milk, nonfat dry milk and dry ice cream mix), (c) a gross sales tax, (d) an export of money tax and (e) small additional taxes.

Sales of evaporated and condensed milk are reportedly retarded by the existence of fixed percentage margins in sales to wholesalers and to retailers. If increases in overhead labor and other costs have been greater than increases in the allowable differential, the effect on importers' incentive to operate is obvious. A series of Labor Department decrees with respect to dock and transportation workers likewise have restricted imports.

Although some of these restrictions have been revoked by temporary decrees, the existence of such regulations will continue to act as a deterrent to trade. In some cases where milk has been imported duty free, involved inspection procedures have served to retard trade.

With the virtually complete recovery of Cuban dairying to an export basis, Cuban officials should recognize that they are no longer on an import basis for dairy products and that extreme measures of protection are no longer useful. A policy of freer trade would make possible a greater supply of foodstuffs to low income groups during times of drought and scarcity. During the dry season there is normally no problem of disposing of virtually the entire available production for fluid purposes. Thus producers' returns could not be seriously affected by the price of imports during a period when there was little or no milk to sell in competition with those imports. During the flush, of course, the Cuban producer faces the necessity of selling his product at a price determined largely by the world market for dairy products.

Freer trade also would assure the United States exporter the chance of a yearly market for some products and would furnish him an incentive to continue packing his product in accordance with Cuban needs. During periods of scarcity of Cuban products, a policy of freer trade would permit consumers to continue the habit of consuming good-quality dairy products until such time as Cuban dairymen could again take advantage of the demand for these products.

The Outlook by Commodities

Ice Cream

About half of Cuba's ice cream is supplied by two large, modern companies and a half-dozen smaller organizations, with the balance by small, unsanitary operators. Imports of ice-cream (including the dry mix) are negligible. Imports of the liquid mix would cost more per pound of solids than its ingredients. The product in the larger plants is made with nonfat dry milk, most of which has been imported up to the present; pasteurized whole milk, condensed milk, egg yolks and the usual stabilizers. Ice cream is distributed through push carts (carretillas, which serve effectively as advertising media), restaurants, hotels, grocery stores and refreshment stands. Per capita consumption is less than ten percent as great as in the United States and the larger companies are attempting to reduce relatively high costs to make good-quality ice cream available to lower income groups.

Cheese

Cuban cheese production in 1949 included about 5 million pounds of farm-produced white or "cream" cheese, 10 percent of which was sold for processing into commercial cheese. Total production of factory cheese of all types is estimated at about 7.5 million pounds. Imports are estimated at about 750,000 pounds. Thus, a total supply of 12.5 to 13 million pounds indicate annual per capita consumption at slightly less than 2.5 pounds. This compares with a United States per capita consumption of nearly 7 pounds (excluding cottage cheese consumption of about 3 pounds). Of the Cuban cheeses (excluding farm home consumed cheese) cream types account for about half, with Patagras (Gouda), Gruyere and Cheddar types following in about that order of popularity.

Cream cheese, representing one of the highest utilizations of Cuban milk, and popular both with manufacturers and consumers, is an unripened, fast-moving item with a rich, creamy flavor. Due to the perishability of this product, there appears little opportunity for United States participation in this market. Sometimes confused with this product is the large volume of white cheese made on farms or processed in factories, of which the butterfat content is often low and the quality is often doubtful. The public reportedly is becoming suspicious of this item.

Approximately 50 percent of the 1949 cheese imports came from the United States, 39 percent from Holland, 10 percent from Switzerland and the balance from Argentina, Denmark, Canada and Italy.

Gouda cheese, particularly from Holland, is about the most important imported cheese. The reported regulations of the Netherlands Government with respect to quality and consistently high butterfat content have served to maintain a differential on this cheese of at least 20 cents per pound over that produced in the United States and Cuba. It is consumed by both the middle and upper income groups of the Cuban population. The Cuban Gouda (Patagras) is ordinarily made in 8- to 9-pound wheels and generally is aged for over two months. A small non-drying style Gouda (2 pound round) is growing in popularity.

Partially as a result of the recent heavy production and stocks of this cheese, Cuba has temporarily removed the embargo on cheese exports. Any shipments probably will be of Patagras and Cuban Cheddar types to southern Caribbean countries. A small amount of Edam type is imported from Holland, from United States and some is made in Cuba. The market for this type appears quite limited.

Cheddar-type cheese is produced in Cuba in some volume from unpasteurized milk and is ripened a month to six weeks. There does not appear to be a good outlook for American natural Cheddar or Twins style in this market. The small size of the average store and lack of cooler facilities act as a deterrent to its purchase. Without clear identification, distributors believe that any of this cheese would have to be priced in direct competition with the local product of the same type. In addition, the Cuban trade has a decided preference for a type of cheese which is not crumbly and can be thinly sliced. American natural and processed cheese in small packages (1/2 pound and 1 to 5 pounds) probably will continue to find a market. The local processed Cheddar type has been unsatisfactory.

Gruyere cheese is expected to continue popular, with the local product continuing to hold most of the market.

Swiss-type cheese is produced in Cuba in fairly heavy volume, of a quality generally acceptable to Cuban tastes. While only two local manufacturers are now making a satisfactory product, the quality is improving and any American importation would have to be in competition pricewise with local Swiss now being sold to distributors at 52 cents a pound. At present prices and importation costs, this would compare with Wisconsin Swiss at about 80 cents per pound.

Blue and roquefort-type cheeses are not successfully produced in Cuba. Blue cheeses are being imported from the States and as long as Cuban incomes are high there may be some expansion in the demand for this type.

There seems to be a small but continuous market for hard and grated cheeses from the United States, mostly of Provolone, Romano and Parmesan types. These types, however, are not generally eaten by Cubans.

On most cheeses the wholesale price with duty, freight and all special costs paid is from 18 to 24 cents a pound higher than the FAS cost in the States. The variation depends on the value and tare weight.

Butter

Both domestic production and imports of butter have been declining in recent years. The bulk of the local production is made in creameries at Bayamo and Camaguey, usually from farm separated cream. The bulk of the imports have been from the United States. As may be expected there is a considerable range in quality of Cuban butter depending on source of raw material and the care in processing.

Cuban butter is packed in a variety of ways including: (a) in 1 pound units containing single wrapped pounds, quarters or eighths, (b) 200-gram tins, 4-pound tins, (c) in bulk boxes varying from 12 to 70 pounds. While most of the butter is used for direct consumption, some of the bulk pack is used in ice cream and other processed foods.

Margarine offers little competition to butter. The tariff rate (over 18 cents per pound, plus a series of other charges) makes the import cost virtually prohibitive. Additional laws discourage the use of color in, and sale of, margarine.

The main competition with butter appears to come from cream cheese of good quality and general availability.

The immediate outlook for butter imports is not hopeful. Present supplies and prices are such that some consideration is again being given to its export.

During the prewar period of surplus production butter was exported to New York from Cuba. Butter imports from the United States have recently dropped sharply. Butter priced at 63 cents FAS, New York, would now cost about 84 cents with all shipping charges, consular fees, import duties and other taxes paid. Cuban butter of good to excellent quality can now be purchased at about 67 cents per pound wholesale delivered to Havana.

Sweetened Condensed Milk

This product is universally available and consumed throughout Cuba. Local production amounting to about 1 million cases in 1949 was produced principally in Bayamo, Camaguey and Sancti Spiritus plants. Imports of over 300,000 cases originated mostly in the United States (about 91

percent) and Holland (about 9 percent) with Canadian shipments negligible. Most of these receipts arrived during the period January to mid-May, when condensed milk was admitted duty free. Cuban production, which got into full swing during the summer, has continued heavy through January 1950. The bulk of the product is packed in 14-ounce tins, 48 cans to the case. 1949 production and imports were sufficient for a per capita consumption of over 10 pounds during the year. This compares with an average United States consumption of less than 1 pound per capita. A small amount of bulk condensed milk is shipped from eastern surplus areas to ice cream manufacturers in Havana.

The immediate outlook for United States shipment of this product is poor. Not only are Cuban inventories and production rate abnormally high, but the prevailing import duties and related costs give the American product a distinct disadvantage pricewise. A serious problem also has arisen following devaluation in terms of the price of imported Dutch milk. This milk is available at Cuban ports for \$6.20 per case CIF. Costs and duties amounting to about \$2.26 bring the total import cost to less than \$8.50. This compares with a United States average wholesale selling price at distributing points of \$9.10.

Evaporated Milk .

Cuban production of this product in 1949 is estimated at about 1,300,000 pounds. Imports amounting to about 20 million pounds came mostly from the United States (about 95 percent) and from Canada (about 5 percent). As in the case of condensed milk, imports were extremely heavy during the period (January through March) when this product was admitted duty free. That imported evaporated milk is finding a better market in Cuba than condensed imports is indicated by the fact that imports of the former recovered sharply during late 1949 in spite of the restoration of import duties and costs.

There seem to be some indications that evaporated milk is gaining in favor over condensed. A variety of brands of United States evaporated milk was available in each of the grocery stores visited. Although this product is susceptible to quicker spoilage upon being opened, this disadvantage may be outweighed by such considerations with respect to sweetened condensed as the following:

1. A realization on the part of the consumer that he is paying a high price for sugar, a Cuban product.
2. Evaporated milk may be used directly as a beverage as well as a milk for the Cubans' cafe con leche.
3. A realization, possibly backed by the advice of physicians, that the use of condensed milk in feeding

small children tends to fatten them without proportionally strengthening them, and may cause acidosis.

4. Many Cubans are becoming more suspicious of the quality of milk used in the production of condensed, most of which is made in Cuba.

Prospects for the continued shipment of evaporated milk, in spite of the relatively high tariff and related costs, appear fairly good. Cuban production probably will continue relatively small for some time since any appreciable expansion would necessitate considerable expenditure for the installation of sterilizing equipment. Can making equipment and filling machines probably also would require considerable replacement or retooling. In addition, the retail prices for imported evaporated milk have been more competitive with the domestic product than is the case for condensed milk.

Dry Milk Products.

Prior to 1949, Cuban production of dry milk was limited to the output of two small roller driers with a maximum annual production of less than 300,000 pounds of dry milk. In 1949, one of these units was replaced by a new Rogers box, and spray driers were installed in 2 other plants. While total production of dry milks probably did not greatly exceed 300,000 pounds in 1949, the annual capacity of the four driers has been estimated at 3 million pounds. Although these plants could be used for processing either dry whole or nonfat dry milks, and it is unlikely that their full capacity will be reached in the near future for any dry milk product, it should be noted that imports, both of dry whole milk and nonfat dry milk combined, have not exceeded this quantity in recent years.

Dry whole milk

That this product has never been more popular in Cuba than is indicated by its relatively small imports and hitherto negligible production has been a puzzle to exporters of dairy products. It seems unlikely that half of the new drying capacity will be used for this product, since considerable interest has been expressed in the manufacture of nonfat dry milk for the local baking and ice cream industries. Since imports have been retarded by a duty of nearly 14 cents a pound, an emergency surtax of 20 percent, and a series of other charges, protection for the local industry appears more than adequate.

Sales and promotional efforts on the part of importing distributors apparently have met with little success. In addition to the effect of high tariff barriers on price, other suggested or apparent limitations are:

1. The general availability and use of both fresh and condensed milks throughout most sections of the Island.
2. A reported widespread belief that dry milk is not made of true milk, but is an inferior synthetic product.
3. The likelihood that the water used, instead of being boiled or purified, has been such as to render the relicuefied product neither sanitary nor palatable.
4. The national Cuban custom of using boiled fluid milk for coffee does not lend itself to the use of dry milk without additional work.

Imports of dry whole milk in 1949, mostly from the United States, are estimated at about 530,000 pounds. This quantity combined with the local production would leave a per capita consumption slightly in excess of .1 pound per person. While this is not far out of line with the United States average of .3 pound per person it is considerably below consumption by some other Latin American countries. Until there is a concerted educational and demonstrational program backed by the support of public officials and the use of dry whole is more thoroughly understood, the chance of increasing imports of this product appears rather small.

Nonfat Dry Milk

Cuban production of this product in 1949 probably was not much greater than 100,000 pounds. Since interest has been expressed in using the capacity of at least one of the three new spray driers for nonfat dry milk, Cuban production of this product probably will considerably exceed this estimate in 1950 but may not be sufficiently great to displace imports. Approximately 1,500,000 pounds was imported in 1949 mostly from the United States. More than half of the nonfat dry milk supply has been used in the standardization of condensed milk, as discussed above. The production of ice cream has absorbed from 20 to 25 percent, while bakery products are absorbing an estimated 5 to 10 percent. The use of this product for prepared drinks probably does not exceed 10 percent. Candy and other confections take a small percentage and virtually none of it is used in home consumption. Some further increase in its use in standardizing condensed milk and in the production of ice cream appears possible. Its use in bakery products is reported to be increasing steadily as bakers develop greater confidence in its use. It is estimated that at present about 10 percent of the bread in Havana is of American type, using milk as an ingredient. Outside of Havana, its bakery uses are negligible. Most of this bread is now being consumed by Cubans, reportedly influenced by the younger generation, which has developed a taste for this product. Confectioners are shifting to this product as fast as they realize the value of a

sanitary standardized milk product in their formulas. Although nearly all users are buying the dry milk in barrels, unsealed drums and 50-pound tins, the practice of not holding it in stock for more than two or three months has made its use reportedly quite satisfactory.

While the use of nonfat dry milk directly as a beverage and for home consumption is negligible, the relatively few who have reliquified it with pure water, reportedly have found it a palatable and wholesome product. Due to its low cost, and high nutritional value, some thought is being given to its use in relief feeding and in educational nutrition programs.

As in the case of dry whole milk, a relatively high import duty has been a deterrent to the more general introduction of this product. In addition, there are some indications that a part of the recent imports may have been classified with dry whole milk under tariff No. 246-D (Powdered milk) instead of under the more logical classification 246-G (Milk in other forms, including any kind of "Skimmed milk,".....). The higher rate would make its importation virtually prohibitive. This problem is being studied in more detail. Even the tariff under 246-G (4.54 cents per pound) and its related costs will become more and more of a barrier to imports as Cuban production is increased and prices decline. The same attitude and habits which have retarded the use of dry whole milk have limited the use of nonfat dry milk. As in the case of dry whole milk, the general availability and moderate cost of fresh milk and of canned milks will make the introduction of this product a difficult task. Its extremely low fat content, however, would make possible the preservation and use of this product over a longer period than is the case of dry whole milk.

Milk Base Baby Foods

Dry milk products in this general category are produced in Cuba in very limited quantities, due to the special techniques generally involved in their preparation and sale. In an attempt to provide for infants and invalids, the Cuban customs law has established a low tariff (specific duty of less than 3 cents per pound) on : (246-E) milk called modified or "humanized", by any process, in powder, to be employed exclusively for ill and convalescent persons and for the artificial lactation of children, provided it comes in glass containers, holding not more than 12 ounces net and with the use indicated on said containers.

These products are sold largely through drug stores on doctors' or druggists' prescriptions at prices generally somewhat in excess of \$1.00 per 1 pound tin. Leading United States manufacturers of these products have been enjoying a steadily growing export trade. These products are not reported to be a serious competitor of canned milks.

Another related United States product, malted milk, has been gaining in Cuban favor in recent years. Presumably it is subject to the same tariff classification as nonfat dry milk (246-G).



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WORLD OUTPUT OF DAIRY PRODUCTS, FOURTH QUARTER, 1949

The overall factory output of dairy products in major producing countries rose in the fourth quarter of 1949, compared with the fourth quarter of 1948. Although higher milk production in almost all countries was the most important factor contributing to this rise, stabilization of fluid milk consumption also was an important factor in enabling the output of factory-produced dairy products to increase.

The higher milk production of the fourth quarter reflects a satisfactory feed situation, healthy condition of dairy animals, and in some instances, an increase in yield per cow. Pastures in Denmark were good for grazing until December. This, together with some increase in numbers and milk yields higher than a year earlier, raised milk production approximately 22 percent above the corresponding quarter of 1948. In France, following the severe dry spell of the summer months, abundant rains in September improved pastures. The mild weather of October and November permitted at least part-pasture feeding and milk production in the period under review was satisfactory. Some increase in dairy cow numbers, and better pasture and feed conditions in the Netherlands brought about a 4 percent increase in milk production in the October-December quarter, compared with a year ago. Somewhat more favorable weather than normal in Sweden benefited crop and pasture conditions and milk production in the fourth quarter was higher than that of a year earlier by 6 percent.

In the United Kingdom a mild autumn restored pastures which had deteriorated from the drought conditions of the summer and milk production in the final months of 1949 again exceeded that of a year earlier, making possible the derationing of milk on January 15, 1950.

Conditions were favorable for production in both Australia and New Zealand in this period and substantial increases in milk output occurred in both countries.

In this Hemisphere, milk production in both Canada and the United States was above that of the fourth quarter a year ago. Pastures in Canada were better than average in the autumn months and supplies of

fodder were ample for the winter. Although there was some decline in cow numbers, output per cow was higher than in 1948 and fourth quarter milk production was somewhat more than one percent above that of the corresponding quarter of the earlier year. Production of milk on farms in the United States continued on an upward trend in the last quarter of 1949. Mild weather in these months, a higher rate of concentrate feeding to dairy cows than in 1948, and a record production per cow, resulted in milk output in this quarter 4 percent above that of 1948.

Butter production in factories in nearly all of the important producing countries increased substantially in the fourth quarter of 1949. Denmark produced more milk in this quarter than a year earlier, the increase going into manufacturing. Butter output for this period was approximately 30 percent higher than a year ago. Production for the entire year increased 29 percent over 1948 and was within 14 percent of the prewar average. In the Netherlands the quantity of butter manufactured in the October quarter of 1949 was 13 percent larger than the same quarter of 1948. For the year as a whole, butter production was 19 percent above 1948 and only 8 percent below prewar.

Output in Sweden increased 11 percent in the fourth quarter of 1948, continuing the upward trend of the earlier months. Production for the year rose 9 percent, reflecting both the higher milk production and the larger volume of domestically produced milk going into products manufacture. Butter production in Switzerland in the final 3 months of 1949 was 8 percent greater than in the comparable months a year earlier. While substantially larger quantities of milk were directed to manufacturing purposes in 1949, thus making possible an overall increase of 12 percent in butter production for the year, the output of that commodity in Switzerland is still far below prewar.

More favorable producing conditions in France in the final quarter of 1949 than in the preceding 3-month period, resulted in somewhat more satisfactory milk supplies and a slight increase in butter production. Although output of butter for the year 1949 was 17 percent above the level of 1948, production has not yet begun to approach that of the prewar period. Butter production in Ireland was 12 percent higher for the quarter under review, 20 percent for the year, due primarily to larger milk deliveries to plants.

Good rains in Australia in the last quarter of 1949 resulted in very satisfactory conditions for production in the principal dairy districts, and butter production in this quarter was up 14 percent. Output for the entire 12 months increased 6 percent over the preceding 12 months, and represented the largest output for any year since 1941. Production in New Zealand for the quarter was higher by 9 percent. Output for the year, 14 percent above 1948, also was considerably in excess of

prewar production.

In the United States butter production showed a gain of 13 percent in the fourth quarter. Annual production increased 16 percent, the highest for any year since 1944. The output of butter in Canada was slightly below that of a year earlier, both for the final quarter and for the entire 12-month period, largely because of the advent of margarine. Production for the year showed a marked increase over that for the prewar period.

Although fourth quarter production in the United Kingdom dropped considerably, output in the earlier quarters was sufficiently heavy to offset this decline, and production for the year as a whole was 26 percent higher than a year ago. Butter output in the United Kingdom is still far below prewar production. The Union of South Africa reported a 2 percent decrease in the output of butter in the October-December period and a 4 percent decrease for the year. Annual production, however, is greatly in excess of prewar output.

Cheese production in factories in the final quarter of 1949 was somewhat higher than that for the same quarter a year ago. In those countries in which milk production was up in this quarter, much of the increase went into manufacturing, with substantial quantities being utilized for cheese. Among these countries was the Netherlands where cheese production in this quarter rose 3 percent over the same quarter of 1948, while for the year as a whole it rose 30 percent. More milk for manufacturing also was available in Sweden and cheese output in the October-December period was 48 percent higher. Annual production in Sweden was 27 percent larger than a year ago, and more than twice that of the prewar period.

Output of cheese in Denmark fell slightly below the final quarter of 1948. Production for the entire year which was 10 percent above the preceding year was double the prewar output. A decline of approximately 9 percent occurred in the fourth quarter in France, but this was more than offset by the heavy production in the 3 earlier quarters, which brought cheese output to a level 20 percent above 1948 and 8 percent above prewar. The quantity of cheese manufactured in Switzerland in the final 3-month period of 1949 was only 86 percent of comparable 1948. While the production of the earlier months was sufficient to raise annual production 6 percent over 1948, output was still 3 percent below the prewar level. Production in the fourth quarter in the United Kingdom was down 12 percent. For the year as a whole it was up 25 percent, but this was considerably under prewar production.

In Australia an increase of 11 percent in cheese production was reported for the closing quarter. Output for the year 1949 set a new

record and rose more than 8 percent over the reduced level of 1948 and more than 4 percent over 1947, the previous record. Production in New Zealand was up 7 percent for the quarter, 14 percent for the year and was 16 percent over prewar.

Canada's cheese production in the closing quarter of 1949 almost doubled that for the same period a year earlier, reflecting the larger quantities of milk diverted from butter manufacture in 1949. Production for the entire year increased 26 percent and was only slightly below the prewar average. Output in the United States was 4 percent higher in the last quarter than a year earlier. Production for the year was 9 percent higher than 1948, about double prewar output.

Canned milk production generally declined in the fourth quarter of 1949 due almost entirely to the lowered output of the two major producing countries of the Western Hemisphere, Canada and the United States. In the former country, canned milk manufactured in this quarter was down 8 percent of comparable 1948 and 9 percent for the year, reflecting the ability of this product to compete for milk supplies due in part to the reentry of the Netherlands as a supplier to world markets. However, production for the year as a whole was almost 3 times that of the prewar period. The output of canned milk in the United States in the fourth quarter was down 7 percent and for the year 14 percent. In both instances the decline occurred in the production of evaporated whole milk which makes up the greater part of total canned milk. A smaller output of canned milk was reported in the United Kingdom in the fourth quarter, although for the year as a whole, some increase was reported.

Production in the Netherlands was higher in each quarter of the current year, that for the fourth quarter being approximately 40 percent over the fourth quarter of 1948. Yearly production almost doubled that of the earlier year, but is still somewhat below the prewar average. The only other country for which figures are available, Australia, showed an increase of 6 percent in fourth quarter production and one percent in annual output. Australia's yearly production of canned milk is now more than triple prewar output, but still small in relation to world production.

Dried milk production in the fourth quarter was considerably above a year ago. Increases occurred in all the reporting countries except Canada where output of non-fat dry milk solids lagged 18 percent reflecting the increased utilization of milk solids in cheese production. For the year, production was 93 percent of 1948. In Sweden the manufacture of dried milk made marked gains throughout the year and fourth quarter output was up 31 percent, that for the entire year was up 34 percent. Production in the Netherlands in this quarter is estimated as 26 percent above comparable 1948, annual output as 17 percent above a year earlier. In the United Kingdom production in the final quarter was in excess of 1948 by 30 percent. However, the smaller quantity manufactured in each

of the preceding quarters resulted in a yearly output 23 percent below annual 1948 output.

In the Southern Hemisphere figures are available only for Australia and the quantity of all types of dried milk produced there in the final quarter rose 29 percent. For the year as a whole output was 27 percent higher, but was still far above prewar.

Production of non-fat dry milk in the United States increased 48 percent and brought output of dried milk, both fat and non-fat, for the quarter to a level 23 percent above comparable 1948. For the entire year dried milk production was 23 percent higher. This increase also was in non-fat dry milk, the output of which established a new record for every month of 1949. This large production may be traced to an increase in total milk supply, reduced utilization in some other products, and the larger output of butter together with the reliance placed on purchases of this commodity for supporting milk prices. Output of dried whole milk was 25 percent below 1948, and was at the lowest level since 1942.

Current Conditions Abroad

Buenos Aires: Milk output in Argentina in the first quarter of 1950 was seriously reduced, the direct result of the severe drought of recent months which caused pastures to deteriorate. Subsequently, heavy rains have improved pastures considerably.

Sydney: The outlook for dairy production in Australia is generally good. As a result of heavy rains in most States, pastures are green and abundant supplies of conserved fodder are available. Dairy cattle are in sound condition and milk production, although now past the seasonal peak, has been maintained at a high level for this time of year.

Wellington: Very dry weather in New Zealand in January resulted in a very sharp drop in butterfat production. Substantial rains fell in February and pastures are recovering, though slowly.

Pretoria: The recurrence of drought is reported in various parts of the Union of South Africa. Uncertain grazing prospects are causing unusually heavy livestock sales.

Dublin: It is expected that Ireland's milk production will continue an upward trend, weather and feed conditions so far being favorable to production. The winter has been mild, pastures are fresh, and feedstuffs are in adequate supply.

London: Increased milk production in the United Kingdom made possible the derationing of milk on January 15. It is reported that supplies of hay and fodder are sufficient for the remainder of the season.

Milk production in January, 1950 was 13 percent above that month in 1949.

Copenhagen: Prospects for production in Denmark are favorable. There are plentiful stocks of home-grown fodder and regular supplies of oilcakes from abroad are expected.

Prepared by Regina M. Murray, under the supervision of Floyd E. Davis.
Based largely on reports from U. S. Foreign Service Officers.

DAIRY PRODUCTS: Factory output in principal producing and exporting countries,
4th quarter (calendar) 1949, with comparisons.

Country and product	Average 1934-38	Total 1948	Total 1949	1949				4th Quarter 1949/1948	Percent
				1st Quarter	2nd Quarter	3rd Quarter	4th Quarter		
		1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.		
Butter									
Canada.....	248,119	287,472	280,921	53,214	93,334	104,400	52,712		99
United States.....	1,673,328	1,210,042	1,408,730	257,052	442,565	378,600	289,280		113
Belgium.....	46,179	2/	56,600	8,105	18,370	18,008	12,117		-
Denmark.....	400,660	267,199	344,358	63,493	100,088	97,003	82,452		130
France.....	444,888	200,994	235,007	54,800	71,943	68,504	55,596		101
Germany.....	792,000	-	-	-	-	-	-		-
Ireland.....	89,400	63,901	76,807	14,349	3,666	32,645	16,099		112
Netherlands.....	201,000	155,823	184,966	34,797	25,807	58,903	39,231		113
Norway.....	24,930	19,570	-	3,843	4,597	9,771	-		-
Sweden.....	151,309	197,724	216,051	43,662	41,424	61,347	48,618		111
Switzerland 3/.....	57,760	30,864	34,725	8,061	5,639	10,895	8,731		108
United Kingdom.....	44,200	18,772	23,700	3,853	4,525	3,853	2,688		70
Argentina.....	65,742	75,000	66,000	-	-	-	-		-
Union of South Africa.....	27,725	48,591	46,466	12,051	14,460	9,029	11,843		98
Australia.....	437,032	354,832	378,011	121,305	104,741	70,472	138,728		114
New Zealand - total.....	366,049	341,646	391,283	150,484	116,009	72,240	163,699		109
Export gradings.....	314,753	300,533	350,523	139,113	106,833	60,531	149,887		108
Cheese									
Canada.....	114,699	88,562	111,965	10,908	3,010	48,738	20,674		190
United States.....	643,234	1,094,425	1,192,775	219,888	251,705	321,295	228,205		104
Denmark.....	68,820	123,237	135,805	26,676	25,353	38,581	26,456		99
France.....	363,098	324,978	391,065	91,182	74,370	104,670	83,391		91
Italy 9/.....	523,518	441,000	485,000	-	-	-	-		-
Netherlands 10/.....	266,519	213,478	277,559	52,943	38,845	90,311	54,659		103
Norway.....	39,067	30,182	-	4,714	8,168	-	-		-
Sweden.....	111,259	113,967	19,826	19,826	27,200	43,378	29,418		148
Switzerland.....	71,729	101,934	108,561	20,710	16,347	38,067	17,802		86
United Kingdom 10/.....	109,000	58,554	73,070	10,528	16,845	16,666	9,274		88
Argentina.....	67,873	176,000	165,000	-	-	-	-		-
Union of South Africa.....	10,195	18,928	17,122	5,049	5,421	3,745	4,044		80
Australia.....	49,111	93,407	101,137	38,330	23,513	21,819	42,607		111
New Zealand - total.....	201,272	203,682	233,229	94,438	71,299	35,421	101,271		107
Export gradings.....	194,175	194,742	220,286	89,459	72,473	20,422	94,535		106

DAIRY PRODUCTS: Factory output in principal producing and exporting countries,
4th quarter (calendar) 1949, with comparisons.

Country and product	Average 1934-38 1,000 lbs.	Total 1948 1,000 lbs.	Total 1949 1,000 lbs.	1949				4th Quarter 1949/1948 Percent
				1st Quarter 1,000 lbs.	2nd Quarter 1,000 lbs.	3rd Quarter 1,000 lbs.	4th Quarter 1,000 lbs.	
Canned milk								
Canada ^{11/}	92,377	296,349	269,277	54,677	95,416	81,252	50,041	92
United States ^{11/}	2,469,535	4,513,324	3,873,060	717,119	1,335,115	1,118,730	666,335	93
Cuba..... ^{4/}	32,564	29,165	-	8,711	9,240	-	-	-
Denmark.....	40,755	53,523	-	14,645	24,824	14,920	-	-
France..... ^{12/}	28,953	53,405	-	11,287	22,627	-	-	-
Netherlands.....	304,896	137,133	263,891	46,967	74,527	66,248	65,881	140
Switzerland.....	14,198	14,330	-	-	-	-	-	-
United Kingdom.....	378,560	187,354	207,335	31,001	121,318	24,999	29,927	96
Australia..... ^{6/13/}	41,394	133,326	134,064	53,494	22,944	25,202	56,751	106
New Zealand..... ^{4/}	11,273	14/	-	-	-	-	-	-
Dried milk ^{15/}								
Canada.....	23,438	79,804	74,545	16,386	27,288	23,022	13,662	83
United States..... ^{4/}	203,555	851,619	1,047,810	155,020	371,165	262,395	188,710	122
Belgium.....	5,500	-	7,961	-	4,161	2,347	847	-
Denmark.....	2,205	10,977	-	1,724	3,642	4,641	-	-
France..... ^{12/}	7,685	4,173	-	990	1,552	-	-	-
Netherlands.....	56,438	53,945	63,272	4,103	33,754	17,483	7,932	126
Sweden.....	1,351	24,733	33,730	4,642	10,282	10,854	6,726	145
Switzerland.....	2,381	-	-	-	-	-	-	-
United Kingdom.....	33,600	77,505	59,583	10,441	32,614	9,139	6,989	130
Australia..... ^{6/}	10,971	17,212	90,350	21,613	14,534	17,601	36,512	129
New Zealand..... ^{18/}	17,429	14/	-	-	-	-	-	-

^{1/} Revised. ^{2/} Total production is estimated at 135,276,000 pounds in 1948 and 143,299,000 pounds in 1949. ^{3/} Total production. ^{4/} Less than a 5-year average.
^{5/} Estimated. ^{6/} Production year beginning July 1. ^{7/} Production year beginning April 1. ^{8/} Marketing year beginning August 1. ^{9/} Total cheese, and includes cheese made from the milk of sheep and goats. ^{10/} Includes farm cheese. ^{11/} Both bulk and case goods. ^{12/} For 1937 only. ^{13/} Revised to include concentrated milk. ^{14/} Canned and dried milk reported at 73,346,000 pounds in 1948. ^{15/} Total dried-whole and dried-skim milk for human consumption. ^{16/} Includes infants' food, health beverages, etc. ^{17/} Production of dried-whole and dried-skim milk was 50,352,000 pounds in 1948 and 67,626,000 pounds in 1949. ^{18/} For 1938 only.

Office of Foreign Agricultural Relations. Prepared or estimated from official statistics, United States Foreign Service Reports, and other information.